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THE S. S. WHITE DENTAL ENGINES

Handpieces

Angle

Appliances

"Revelation" Burs

Engine Mallets

Etc., Etc.



**The S. S. White Dental
Mfg. Co.** CHESTNUT ST., Cor. 12th
PHILADELPHIA

Prices Subject to Change Without Notice

BRANCHES

NEW YORK
Spingler Bldg., 5, 7, and
9 Union Square; Charles
Bldg., Madison Avenue,
cor. 43d Street

BOSTON
Walker Bldg., 120 Boyl-
ston Street

CHICAGO
Atlas Bldg., Randolph
St., Cor. Wabash Ave.

BROOKLYN
Nassau Bldg., 356 and
358 Fulton Street

ATLANTA
Grant Bldg., N. Broad
and Walton Streets

ROCHESTER
Chamber of Commerce,
Main St. E., Cor. S. Ave.

NEW ORLEANS
Maison Blanche, Corner
Canal and Dauphine Sts.

CINCINNATI
First Nat'l Bank Bldg.,
Fourth and Walnut Sts.

SAN FRANCISCO
Butler Bldg., 135 Stock-
ton Street

LOS ANGELES
Mason Bldg., Cor. Fourth
and Broadway

OAKLAND
Oakland Bank of Savings
Bldg., 12th & Broadway

TORONTO (Can.)
Confederation Life Bldg.,
110 and 112 Victoria St.

MONTREAL (Can.)
Birk's Bldg., 14 Phillips
Square

EUROPEAN BRANCH
Berlin, W., Mauerstrasse
83-84

"Genuine Carborundum"—"We Know How"

THESE two expressions constitute the natural divisions of a subject we have something to say upon.

(I.) "*Genuine Carborundum*"

The first is from an advertisement of a dealer, which after recounting that the Carborundum Company is the only manufacturer of Carborundum in America and that its "green" product is used exclusively for the dental trade, lays down this dictum:

"Green Carborundum is always genuine Carborundum."

Observe, it does not say that green Carborundum is pure or that other colors of Carborundum are not genuine, for then it would conflict with this statement of the Carborundum Co.'s Catalogs:

"COLOR—Pure Carborundum is white. In the commercial manufacture the crystals are produced in many colors and shades, partly owing to impurities and partly owing to surface oxidation. The prevailing colors are green, black, and blue. The color has no effect upon its hardness."

Observe, again, that black and blue divide the honor of "prevailing colors" with green in "genuine Carborundum."

We make Carborundum points, disks, etc., for dentists, of "genuine Carborundum," from the furnaces of the Carborundum Co., with all the hardness which the term implies. But we make our Carborundum tools for dentists in such a way that their users get the full benefit of the great hardness of the Carborundum; and according to the Carborundum Co. *the color don't count*.

(II.) "*We Know How*"

The heading for the second textual division of our subject is the "catch phrase" of a well-known firm of Philadelphia paperhangers, to whom apologies are tendered for borrowing their thunder.

"We know how" to make tools for dentists, whether of Carborundum, Corundum, Diamond, Steel, or what not, and we put our "know how" into every article we make.

In Carborundum goods, for example, we know the sort of binder to use, how to combine binder and abrasive, how to mount the finished tools. As a result, you don't find soft spots in our Carborundum tools; you don't find their cutting surfaces getting polished after a few minutes' application and stopping work because of it; you don't find our mounted tools running lop-sided, striking on the high points only. Instead, properly handled, they go right on doing good work till they are worn out in active service. Our aim in their manufacture is to put into them 100 per cent. of efficiency, and we come close to the mark. We start with "genuine Carborundum"—blue, green, or black, as it may be, and we make it into tools to do good work, not merely "to sell."



LOW PRICE AND CHEAPNESS

The Question of Cheapness

An article may be cheap without being low-priced; it may be low-priced without being cheap. The whole question hinges on the relation of efficiency to cost.

You can start with this fact: Any article—everything—that is the product of nature's forces or man's hands has some value. That value may be much or it may be little, depending entirely upon the usefulness of the article in question. Some things may have so little value that they are dear at any price; others may have so much value that they are cheap at any price. From one extreme to the other the question of cheapness runs a double-sliding scale—the greater the proportionate efficiency to cost the cheaper the article is.

As it Affects Dentists' Supplies

The sum total of value in dentists' instruments and appliances is made up of two composite elements—usefulness and longevity.

Their usefulness may rest entirely upon special adaptation to a single line of work; or it may include several functions more or less divergent in character. Intimately associated with usefulness, and dependent in large degree upon the same factors which make for usefulness, is longevity, commonly expressed by the term durability. These factors are the perfection of adaptation to use, the nature and treatment of the materials which enter into them, and the accuracy of the workmanship put into their mechanical make-up.

The Essentials

No one of these factors can be neglected. Each of them is essential. Departure from ideal adaptation means a loss of usefulness through greater difficulty of application. A lowered quality of materials or improper treatment of these materials or inaccurate workmanship will prevent the development of the highest degree of usefulness in the completed appliance, and will sacrifice longevity.




Finish Should Not Be a Mask

Finish is not an essential, except when it is the rounding-out of a tool which is finely and accurately made throughout. When it is simply the mask—as it too often is—for the concealment of low-grade materials and inferior workmanship, it is not merely a non-essential; it is a delusion and a snare, its high purpose prostituted to make it serve as the accomplice to a fraud. It ought to be evident that a fine finish may be used to put a good face on a sham and cannot be depended on as a guide to quality. Its purpose may only be to give the appearance of quality not found in the instrument and so lend a color to a price out of all proportion to the actual value.



Low Price May Spell “Cheap and Nasty”

Another combination less to be feared is poor quality and low price. Such a union can only result in a degenerate product; the kind which has been aptly described as “cheap and nasty,” with no allurements but low price, which is so low usually as to preclude the idea of practical value. Such goods are emphatically dear at any price.

Honesty in Manufacturing

The dentist is not confined to a choice between a veneered fraud and a self-confessed abortion. He can, if he will, buy instruments which are honest all through, honest in that the materials are the best known for the purpose, honest in their designing, honest in the treatment of the materials along lines to produce the best results, honest in finish, honest in price. The Trade  Mark is the symbol by which it may be known that the outward finish is but the token by which all dentists may know the quality within.

The Foundation of Our Business

For over sixty years our business has been builded on the quality of our products, and during all this time there has been an unceasing effort for better and better quality. For forty of these years all goods manufactured by this house have borne our Trade-Mark,  or , to notify the dental world of their high practical value in proportion to their cost. Our products are not high-priced; they are proper-priced. Our selling price, which is the cost to



the user, bears a just relation to the cost of production. And whatever the article that bears our Trade-Mark, the presence of the trade-mark is a positive assurance to the purchaser that the value for which he is seeking is there. In this sense—the sense that they have a high efficiency—S. S. White products are always cheap.

The Standards By which We Work

The standards of measurements in our factories is the one-thousandth part of an inch—some of our gages for machining work as close as the one-four-thousandth part of an inch. Close adherence to these gages is assured by strict inspection and rigid tests.

In products which from their nature cannot be made to gage, as porcelain teeth and handmade instruments, strict inspection guards our sales stock from the presence of defectives.

100 Per Cent. First Quality the Result

Our aim is 100 per cent. first quality products. How near we come to achieving the 100 per cent. is shown by examples from our gaged and ungaged products, taking for our exemplars the two which in quantity of production outnumber any others—"Revelation" Burs for the gaged and Porcelain Teeth for the ungaged.

In each of these the complaints of defectives received, careful records covering a period of fifteen years for the Burs, and seven years for Porcelain Teeth, showed between one and one and a half one-thousandths of one per cent.

The figures in each instance represent sales of many millions.

Always Cheap to the Buyer

Our first aim in making an instrument or appliance is to put into it the highest attainable efficiency value. Because of the achievement of that aim, our products are cheap to the user—he gets an unequalled value for the money he invests in them. They are often low-priced, never because of any lowering of their efficiency, but because the simplifying of manufacturing problems lessens the cost of production. Whoever buys S. S. White products gets practically 100 per cent. of first quality goods.

THE S. S. WHITE DENTAL MFG. CO.

PHILADELPHIA, January 1912



THE DENTAL FOOT ENGINE

It is difficult to estimate and almost impossible to exaggerate the effect upon the practice of dentistry of the invention of the foot-operated dental engine along in the early seventies. It rendered comparatively easy operations which to that time had been so difficult and tedious that many people refused to submit to them, and it cut the time of preparation of cavities to a mere fraction of that required for doing the work by hand. It is within bounds to say that it doubles the producing capacity of the average dentist. As a consequence, the use of the engine is almost universal. With the great majority of dentists the foot engine is the standby, and even those who are equipped with electrically operated devices find it indispensable in case of difficulty with their current or in other emergencies.

To The S. S. White Dental Mfg. Co. and its predecessors, Dr. S. S. White and Johnston Bros., belongs the credit of making and introducing the first foot engine, both of the types which are now accepted as standard, and practically every important improvement which has marked the development of each type.

Commercially speaking, the first foot engine was the Morrison, made and introduced by Johnston Bros., and which was a type now rarely seen, *i.e.* stiff arm sections united by flexible joints. This was superseded by the Johnston engine, which later gave place to the Shaw engine, and this in turn passed out of demand.

The S. S. White Cable Engine was the second engine introduced, shortly following the Morrison, and the first of the cable variety. It has never been superseded by any other engine either of its own or any other type.

The first engine of the "All-Cord" or "Belt" type was the Elliott Suspension Engine, although Morrison in his patent first illustrated and described an engine in which the belt conveyed motion directly to the handpiece. The Bonwill Engine, which appeared



after the Elliott, was the first cord engine having an upright standard. Next came the Weber-Perry Engine and later the Doriot; then the S. S. White Belt Engine.

The Cable is decidedly the most popular form of engine, and the S. S. WHITE CABLE ENGINE from its first appearance to the present time has steadily grown in favor. Of all engines it always has been and still is the most in demand, being more widely used than all its competitors combined. It has undergone many alterations and improvements. In its evolution, the constant effort has been to devise additional features calculated to enhance its value, widen its usefulness, improve its easy running and wearing qualities. Thus the engine became better and better, each change and improvement being appreciated. The S. S. WHITE CABLE ENGINE in its present form is far superior to anything that has preceded it. It is marked by great refinement of design, construction, workmanship, and finish. Simplicity has been the master thought in its construction, and the S. S. WHITE CABLE ENGINE now stands in its simplest and best form possessing every essential or desirable feature.

Together with the S. S. WHITE CABLE ENGINE we also present the S. S. WHITE BELT ENGINE (all-cord), embodying the best features of the Weber-Perry and the Doriot, modified and improved. The same simplicity which marks the Cable Engine likewise characterizes the Belt Engine the latter, however, necessarily involving more parts than the former.

Each and every element of these two engines has been adopted after the most careful study and consideration, and together they represent some thirty odd years of experience, the best work of our master mechanics, the inventions and suggestions of expert dentists, all embodied in the finest products our factory is capable of turning out.

The engines are illustrated and described on following pages:



THE S. S. WHITE CABLE ENGINE

Patented March 17, 1903

FIG. 1

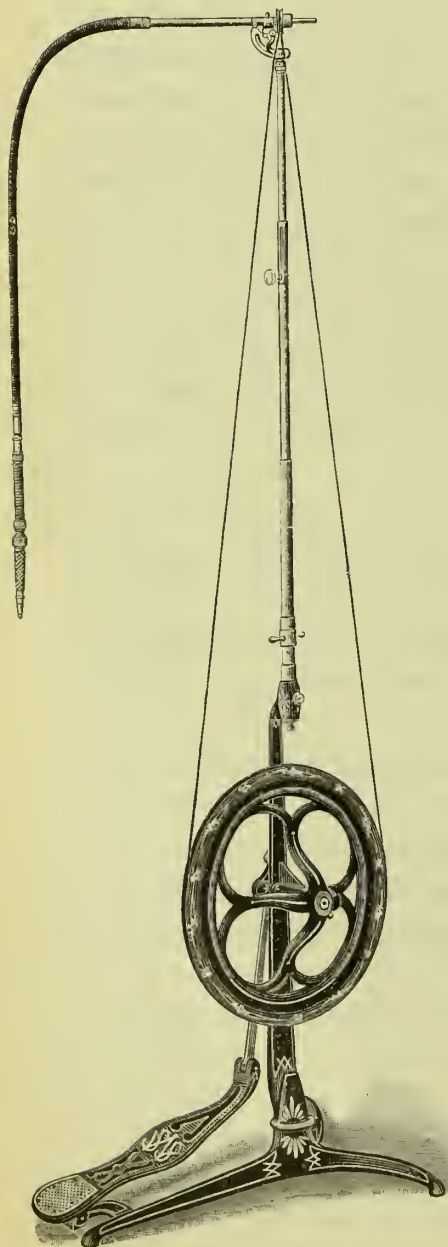


FIG. 2

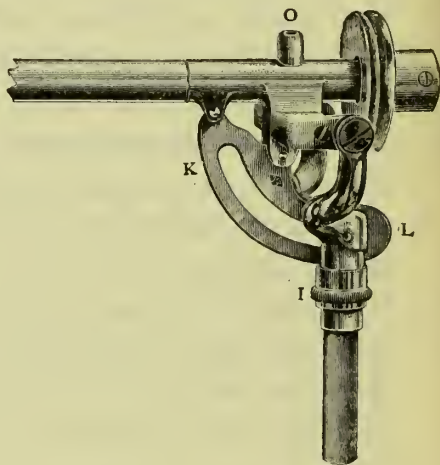
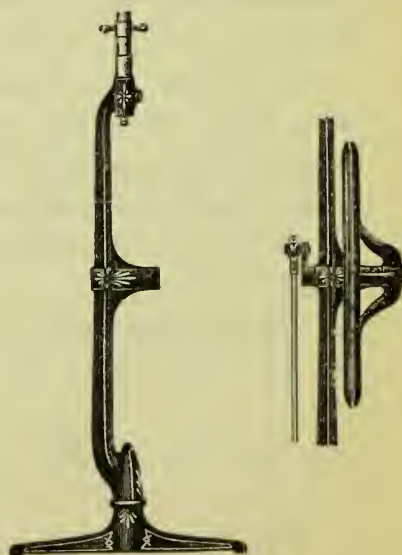


FIG. 3



For prices see page 10



THE S. S. WHITE CABLE ENGINE

The S. S. White Cable Engine is distinguished by its simplicity of construction, and the superiority of the materials and workmanship put into it.

The base and driving mechanism (Fig. 3) are designed and constructed on lines carefully worked out to combine effectiveness, easy-working, and easy care-taking.

The upright is in two sections, the lower being socketed in the top of the driving-wheel frame, to which it is firmly secured by a set-screw. A cross-piece affords a ready means for lifting the Engine. The upper section, which telescopes into the lower, may be raised or lowered to adjust the tension of the belt, and locked by a clamp-screw at any point within its vertical range.

The pulley-head (Fig. 2), which swivels freely in the top of the upright is a yoke with a hinged frame upon which is mounted a bearing for the rigid portion of the working arm. The pulley plays freely upon the rear end of this bearing, the yoke arms being curved to permit free access to it with the belt. Into the front end is screwed an extension which serves as a support for the portion of the cable near the metal end, preventing it from "kinking," and also acting as an attachment for the metal end of the sleeve. An extension of the pulley block to the rear provides a journal bearing for the cable end, with a pin which enters its groove, locking the cable to the pulley but permitting endwise play. The hinge of the frame is controlled by a segment K, the upward movement of which is limited by a pin L, and locked when at the proper height to give the working arm a horizontal position by spring collar I. To raise the arm to the working position, only a slight upward toss of the hand holding the handpiece is necessary, when a lug operated by the spring collar catches in a notch near the lower end of the segment. To lower the arm, hold the handpiece with one hand and pull down the collar with the other, when the arm will drop to its position parallel to the upright. An oil cup O on the top of the frame affords means for lubricating the bearing of the cable. A wick filling prevents the too rapid distribution of the oil.

The arm is the well-known S. S. White Cable and Sheath, with the end of the sheath nearest to the Engine-head reinforced, eliminating the need of an arm support.

Base finely Japanned and ornamented, upright and head nickel-plated.



THE S. S. WHITE BELT ENGINE

Patented July 17, 1906

FIG. 1

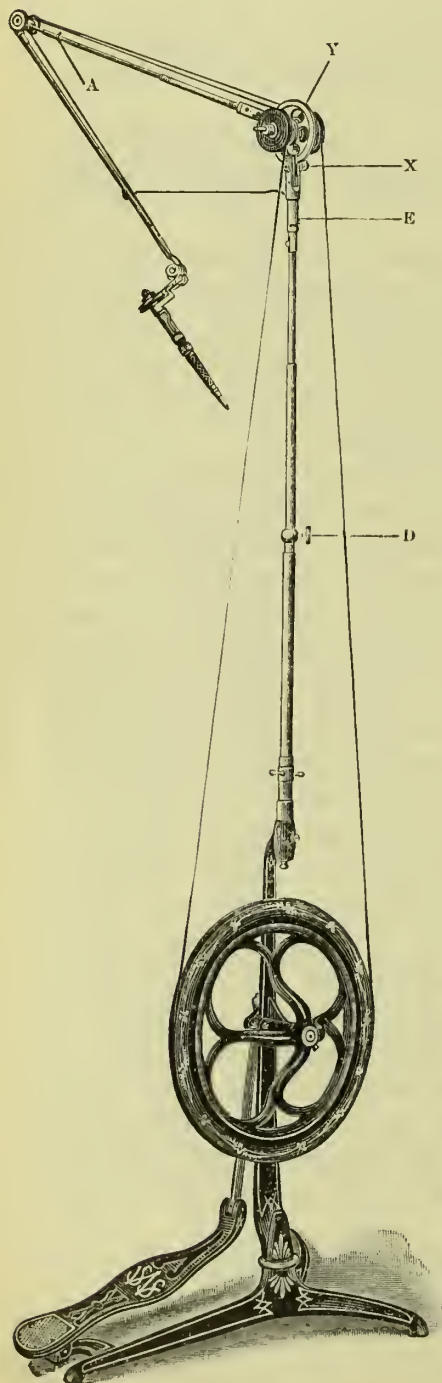


FIG. 2

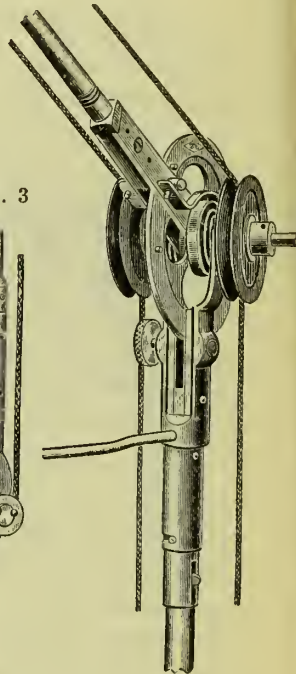


FIG. 3

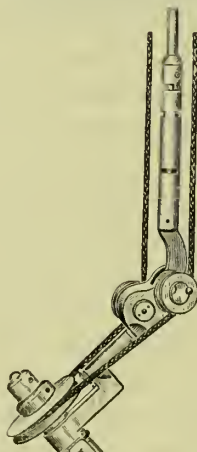
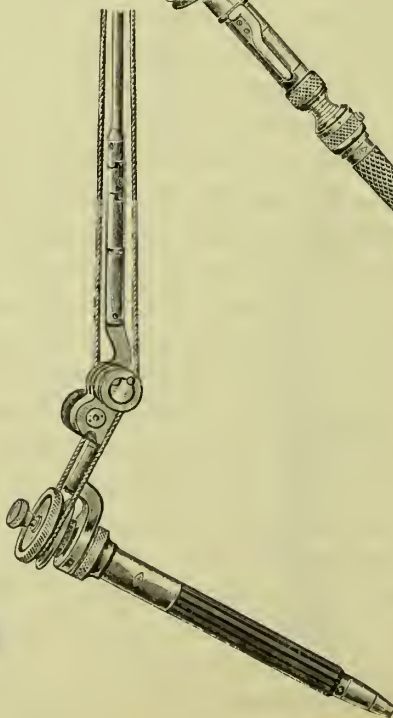


FIG. 4



For prices see page 10



THE S. S. WHITE BELT ENGINE

The S. S. White Belt Engine has great driving power and complete steadiness of motion, through the constant unvarying tension of the belt.

The base and driving mechanism are identical with those of the Cable Engine, the simplest, most direct, and most effective that have ever been embodied in a dental engine.

The upright is made in two parts, affording a telescoping and rotary movement of the upper section, the former for tightening the belt, the latter for fixing the position of the head when at rest. A thumb-screw D, a partial turn of which locks or loosens it, governs both, holding the parts firmly at any point. The entire upright is nickel-plated.

The head, Fig. 2, is forked to provide supports for a pulley-shaft, upon which play loosely two vulcanite directing pulleys for the belt. Attached to the face of one of the directing pulleys and revolving with it is a mandrel to carry a brush-wheel. Around the body of the pulley-shaft, between its supports, the arm is attached by means of eyes extending from its end. Between these eyes, also playing around the body of the shaft, is a friction wheel Y, which is locked or loosened by the clamping-screw X. The friction wheel is the support of the arm, and two springs, one on either side of the wheel relieve the operator of the weight of the handpiece. The wheel can be set to give the arm any desired elevation when at rest. Two stop-screws on the side of the friction wheel fix the vertical range of the arm, allowing it a free movement of about seventy degrees between them. A spring E carries the arm automatically several degrees to the right when released.

The arm is of the rigid jointed type, with pulleys at elbow and wrist. The outer section of the upper arm telescopes freely in the end of the main arm, with a compensating spring A, which automatically keeps the tension of the belt uniform. The wrist joint, Fig. 3, which is detachable, is so constructed that it cannot become locked while in use. It carries a handpiece pulley and a Slip-Joint, so that any of our Handpieces, Angle pieces or Mallets provided with a Slip-Joint may be attached to it.

An important feature is the Extension-Arm Stop-Attachment, which prevents the belt's winding around the fore-arm and so interfering with the free operations of the Engine. (See page 20.)

We show the Engine equipped with Slip-Joint and No. 7 Handpiece. If desired it may be equipped with the Doriot Handpiece as shown by Fig. 4, page 8.



PRICES OF THE S. S. WHITE CABLE ENGINE

With Reinforced Sheath, Duplex-Spring Connection, and No. 7 Handpiece	\$38.00
The same with No. 6 Handpiece	39.00

(Slip-Joint Connection adds \$5.00 to the above prices)

THE S. S. WHITE CABLE ENGINE ARMS

When sold separately, are priced as follows

Pulley-head, Reinforced Sheath, Cable, Duplex-Spring Connection, and No. 6 Handpiece	\$18.50
The same with No. 7 Handpiece	17.50

(Slip-Joint Connection adds \$5.00 to the above prices)

When the component parts of the Engine-Arm are sold separately, the prices are as follows:

Pulley-head (see page 6)	\$5.50
Cable A, complete (see page 12)	1.25
Reinforced Sheath C (see page 11)	1.25
Duplex-Spring Connection with Swivel "G"	2.50
Slip-Joint, with ferrule and Dog, complete	5.00
Duplex-Spring and Slip-Joint Connection, complete (see page 25)	7.50

THE S. S. WHITE BELT ENGINE

Rigged in various ways

With Wrist- and Slip-Joint and No. 7 Handpiece	\$58.00
The same with No. 6 Handpiece	59.00
With Doriot Wrist-Joint and Doriot Handpiece No. 3	52.00

The Doriot Handpiece dispenses with the Slip-Joint which makes the price less.

With either of the above Engines we give free the equipment described below:

THE S. S. WHITE BELT-ENGINE ARMS

When sold separately are priced as follows

Head, Elbow, Arm, Wrist-Joint, Slip-Joint, and No. 7 Handpiece	\$36.00
The same with No. 6 Handpiece	37.00
Head, Elbow, Arm, Doriot Wrist-Joint, and Doriot Handpiece No. 3	30.00

SLIP COVERS FOR DENTAL ENGINES

When the engine is not in use a Slip Cover which can be dropped over it easily will protect it from dust and moisture.

They are made of fine white muslin edged with red braid.

Price, for The S. S. White Cable Engine	\$1.00
" " " " Belt "	1.50

FREE EQUIPMENT FOR DENTAL ENGINES

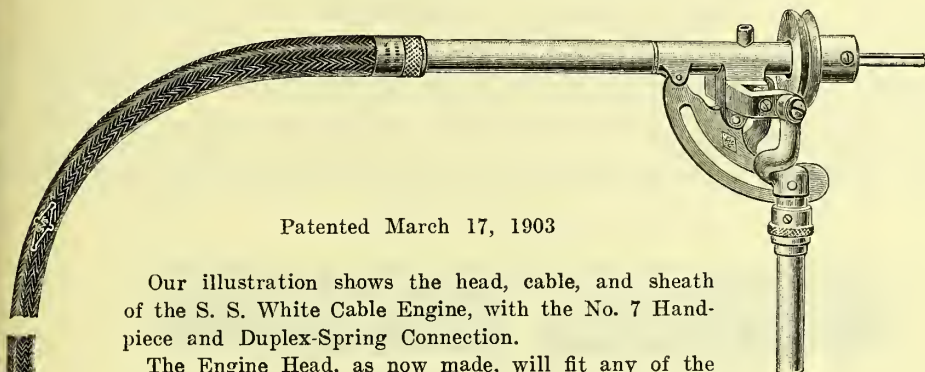
With each of our dental engines sold complete we supply a practical equipment of burs, etc. Included are several tools and appliances, convenient in taking care of handpieces, attachments, etc.

This free equipment now consists of,—

7 Selected "Revelation" Burs.	1 Screw-Shoulder Mandrel.
1 Drill.	1 Porte-Polisher.
1 Plug-Finishing Bur.	1 Oil Can.
2 Corundum Points, mounted.	2 Screw-Drivers, Nos. 3 and 4.
1 Screw-Head Mandrel.	2 Bodkins.



THE S. S. WHITE CABLE-ENGINE HEAD, CABLE, AND SHEATH



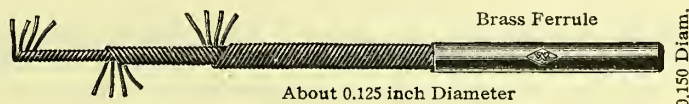
Our illustration shows the head, cable, and sheath of the S. S. White Cable Engine, with the No. 7 Hand-piece and Duplex-Spring Connection.

The Engine Head, as now made, will fit any of the S. S. White Engines from A to M, and a majority of the engines of other manufacture made on the lines of the S. S. White Cable Engines.

PRICES

Equipped with No. 6 Handpiece and Duplex-Spring Connection	\$18.50
“ “ “ 7 “ “ “ “	17.50

Slip-Joint adds \$5.00 to these Prices



About 0.125 inch Diameter

0.150 Diam.

The cables are made of three series of four wires each, one series superimposed over another and the direction of the winding reversed with each series. While still under tension in the winding machine, both ends of each series are secured with hard solder by brazing. This construction, while reducing the back-lash to the minimum, assures the maintenance of the proper tension as long as the wires are intact.

REINFORCED CABLE SHEATH C

Patented March 17, 1903



A notable improvement in our sheaths for Engine Cables largely enhances their usefulness by taking over the function formerly performed by our Flexible Arm Support, and, of course, doing away with the need for that appliance. The end of the Sheath next to the Engine head is reinforced—made thicker and amply strong to support the Cable—in the winding. It will prevent the Cable from becoming “kinked” or set in a curve, just as our well-known Support does. Tapering to the regular size of the Sheath within a few inches, there is no interference with the flexibility of the arm, while the appearance is improved.

PRICE

Sheath C with metal ends	\$1.25
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ENGINE CABLES AND SHEATHS FOR S. S. WHITE ENGINES

Fig. 1 is the Sheath with metal ends. Known as Sheath "A" for S. S. White Engines A to M.

Fig. 2 is the Cable, with Cable End No. 103 and Cable Coupling No. 102 ready to attach to the Pulley-Head and Handpiece Spindle respectively. Known as Cable A.

Fig. 3 is the Cable with brass ferrules B ready to solder into the Cable End No. 103 and Cable Coupling No. 102. Known as Cable B.

Fig. 4 is a Cable same as Fig. 3, except that Cable Coupling 102 is attached. Known as Cable B1.

FIG. 1

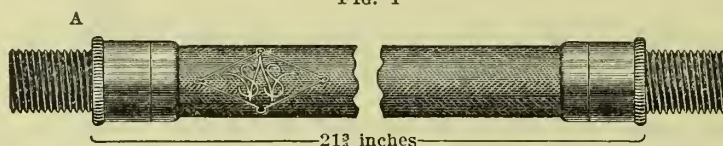


FIG. 2

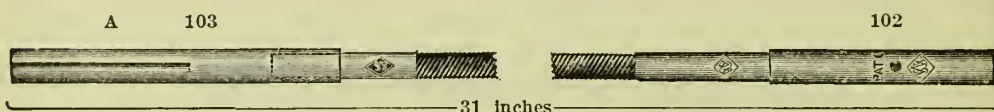


FIG. 3

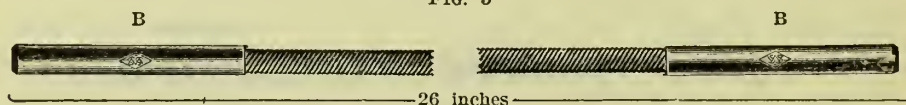
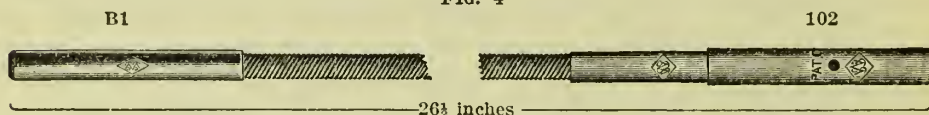


FIG. 4



Our Cable and Sheath are so made as to afford great strength and uniformity. Each sheath bears our trade-mark as a guarantee of excellence, as does also the brass ferrule upon each end of the Cable.

The ends of all Cables bearing the brass ferrules are secured by brazing, before they leave the machine in which they are made, and *while the wires are yet under tension*, thus securing great torsional strength and avoiding the risk of relaxing the tension of the coils when soldering them into the sockets by which they are attached to the Pulley-Head and Handpiece.

By the addition of the brass ferrules the Cable is also reinforced at the points where it is necessarily more or less weakened by the heat used in soldering. We strongly advocate the use of the brass ferrules, and recommend those who are not now using them to purchase a complete Cable (Fig. 2), with parts Nos. 102 and 103. (The old parts corresponding cannot be used, owing to the necessary increase in the size of the bore of the sockets to receive the brass ferrules.) Being once provided with parts Nos. 102 and 103, in case of the breakage of a Cable it will be necessary to purchase the Cable only as per Fig. 3.

We occasionally find a Cable in use shorter than the regulation length; apparently some dentists when their Cable gives out trim off the broken part, and shorten both Cable and Sheath. This is mistaken economy, as the Cable is not longer when new than is needed for proper use; besides, when one or both of the soldered ends are cut off the tension of the coils composing the Cable is relaxed and its *strength thereby greatly impaired*.

PRICES

Cables "A," complete, with brass ferrules, Cable End No. 103 and Coupling No. 102..	\$1.25
Cables "B," with brass ferrules only .....	.75
Cables B1, with brass ferrules and Coupling No. 102	1.00
Sheath "A," with metal ends .....	.75



ENGINE BELTING

The S. S. White Engine Belting is what is known as cored belting; that is, it consists of a solid core surrounded by a woven cover or sheath. The core is white; the sheath is maroon color.

We make this belting in our own factories, of the best Irish linen thread procurable. It is as free from stretch as it can be made, much freer than anything else sold for engine belting that we have examined. When the ends are joined with the Hold-Fast Splice there is little or no inequality, no rigidity,—the splice is not even perceptible, except to close inspection. It is as strong as any part of the belt.

The belting is made in two thicknesses, as shown below. No. 2 is suitable for all engines, except the Weber-Perry and such electric Engines as employ the Weber-Perry arm or use very small idler pulleys similar to those on that engine. For such the Belting No. 3 is intended.

Engine Belting No. 2



Made up in endless belts for the S. S. White Engines E, F, G, H, J, K, L, M, Cable, Doriot, and S. S. White Belt Engine, and sold by the yard for any engine

Engine Belting No. 3



For Weber-Perry Engine; for Electrical Outfits with Weber-Perry Arm, or others having small Idler Pulleys

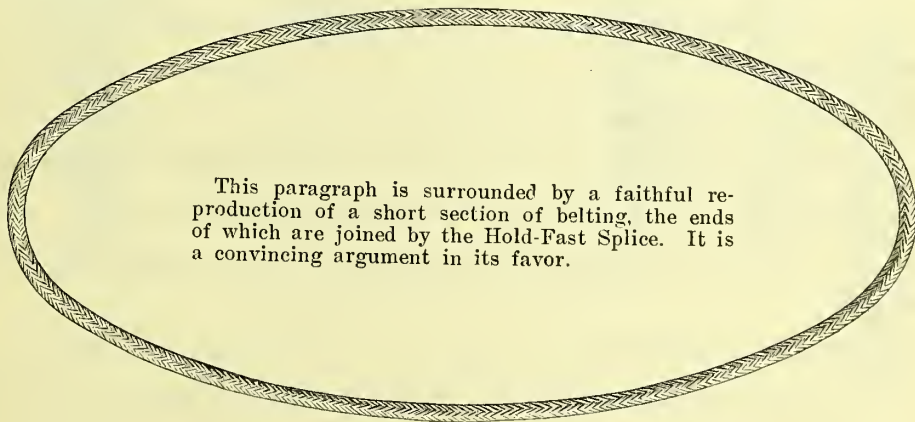
HOW BELTING AND BELTS ARE SOLD

We sell finished endless belts of the No. 2 Belting for S. S. White Engines E, F, G, H, J, K, L, M, the CABLE ENGINE and the BELT ENGINE, and for the Doriot Engine; and of the No. 3 for the Weber-Perry Engine.

We make endless belts of No. 2 and No. 3 to order and sell the Belting by the yard.

The S. S. White Engines, A, B, C, D, and the Shaw Engine require the ends of the belt to be joined after it is placed on the engine. We sell a brown Belting in proper lengths to make belts for them at 10 cents each.

All endless belts should be joined by the "Hold-Fast Splice." This splice makes the belt practically one continuous weave without a break in the smoothness of its surface, and the splice is as strong as any part of the belt.



This paragraph is surrounded by a faithful reproduction of a short section of belting, the ends of which are joined by the Hold-Fast Splice. It is a convincing argument in its favor.

As an experiment we ran one of these belts on an S. S. White Engine driver and pulley-head, 6000 revolutions to the minute, for 288 hours. At the end, except for what you might call reasonable wear and tear, the belt was apparently as good as at the start. The splices showed no weakness whatever. This after 103,680,000 revolutions.

PRICES

Hold-Fast Belts for S. S. White Engines E, F, G, H, J, K, L, M, or Cable Engine..each	\$0.24
“ “ “ S. S. White Belt Engine	“ .30
“ “ “ Doriot Engine	“ .30
“ “ “ Weber-Perry Engine	“ .30

Special lengths of Belts made to order on the basis of a charge of 3 cents a yard for the belting and 15 cents extra for Hold-Fast Splice.



THE S. S. WHITE HANDPIECE No. 6 (CONE-JOURNAL)

Designed and made to afford a more accurately-working tool than is possible with a chuck bit-holding mechanism, our Cone-Journal Handpiece No. 6 has stood from its first introduction without a rival.

Its bit-holder is a mechanical lock. Every part is made so nicely that it has been compared in its mechanism to a watch.

A "Revelation" bur locked in this handpiece becomes a part of it. There is no lost motion, no suggestion of wobbling or looseness.

We are frequently asked by patrons which handpiece we would recommend them to buy. Our answer always is that were we in dental practice, we should use both handpieces (with the slip-joint), and that we would retain the No. 6 for use with the smaller burs and for such operations as require accuracy and freedom from lost motion, while we used the No. 7 for grinding, polishing, and the rougher class of work.

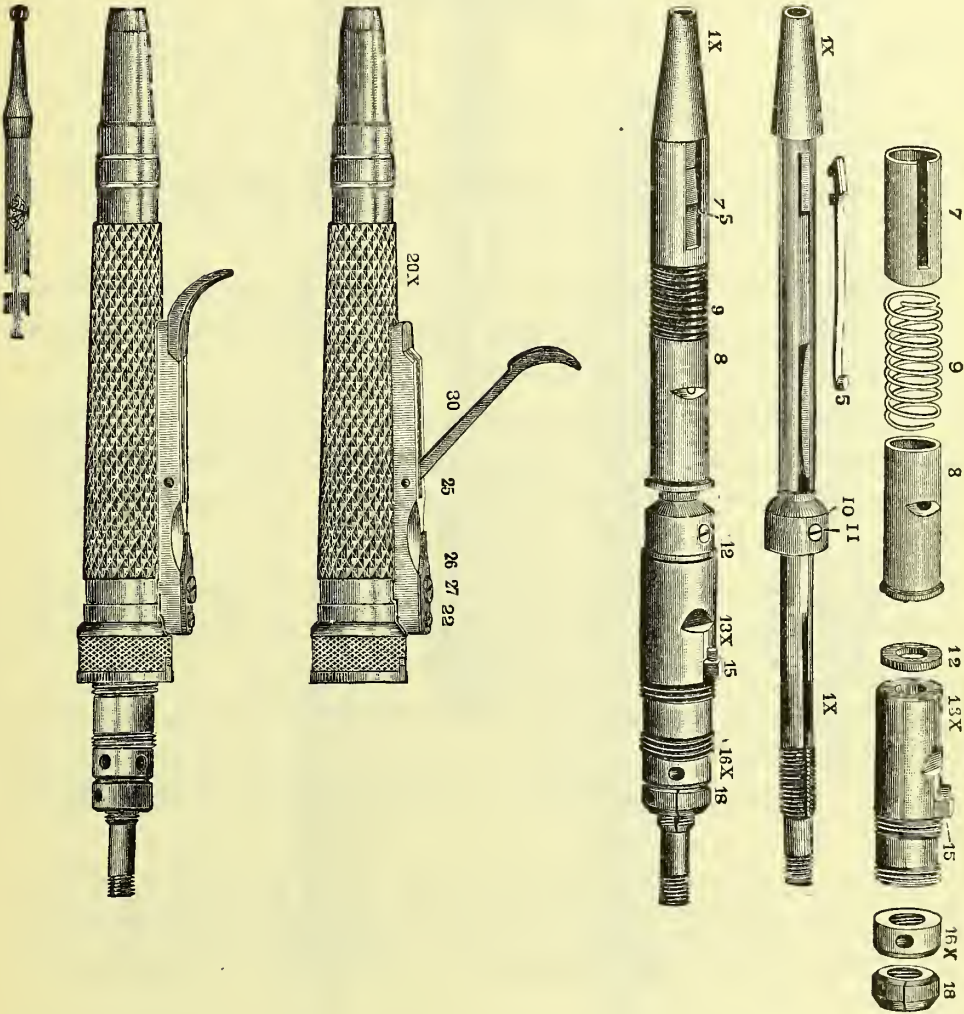
If you value accuracy in your work,—and accuracy is becoming more and more a necessity in the preparation of cavities,—this Handpiece is the one handpiece upon which you can rely. It runs true and certain; the coned journals provide quick, easy means for taking up wear; the parts are readily exposed for cleaning, oiling, or inspection, without interfering with the adjustment of the bearings.

The S. S. White Cone-Journal Handpiece No. 6 is unquestionably the perfection of handpiece construction up to date.



THE S. S. WHITE HANDPIECE No. 6 (CONE=JOURNAL)

[SEE OPPOSITE PAGE]



The letter X attached to the figures indicates that the parts so designated are combinations, the parts of which are not sold separately

Full directions with each handpiece

Price \$8.00



THE S. S. WHITE HANDPIECE No. 7 (CHUCK)

THE STANDARD UNIVERSAL HANDPIECE

The S. S. White Handpiece No. 7 has the advantages of the accuracy of design, of measurements, and of machining which belong to all appliances made in our factories.

These mean much to the user, in exactness of work and durability. Take a chuck handpiece of our make and one of the same design made elsewhere and you will find ours, while costing no more, will give an efficiency which you can't get out of the other.

The reason is plain. The parts of our Handpiece fit one another so accurately, and are so finely finished, that friction is reduced to the minimum. It therefore works easier and lasts longer.

For a precisely similar reason it is advisable and economical to use "Revelation" Burs in our No. 7 Handpiece. The bur shanks fit the holder of the handpiece, the wear and tear of which are practically *nil*.

This bit-holder is a double-end chuck, which grasps the shank of the bur at two points about an inch apart, giving the effect of a bearing of that length. Any standard size bitshank will be held immovably.

The appliance is simple in construction, and the internal mechanism is readily exposed for oiling or cleaning. The case is held in position by a screw (No. 16), a turn of which locks or releases it.

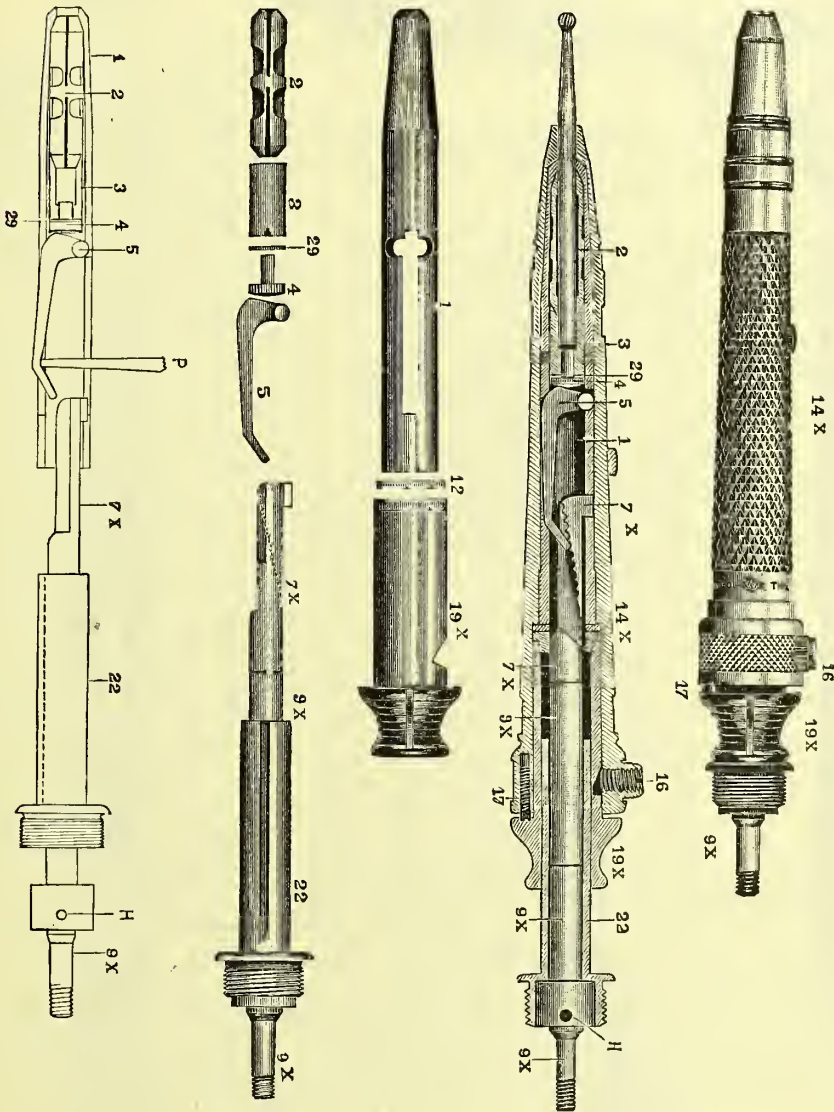
The nose of the casing is extended beyond the end of the spindle affording a guard against the entrance of grit and dirt to the bearings.

The case is provided with a boss to prevent angle attachments from turning in operation.



THE S. S. WHITE HANDPIECE No. 7 (CHUCK)

[SEE OPPOSITE PAGE]



The letter X attached to the figures in this illustration indicates that the parts so designated are combinations, the parts of which are not sold separately.



DORIOT HANDPIECE No. 3

Patented July 17, 1906



DESCRIPTION OF PARTS

- 1X. Spindle.
- 6. Chuck.
- 7. Plunger.
- 8. Plunger Tip.
- 11X. Chuck Screw.
- 16X. Sheath.
- 19. Angle Screw.
- 25. Union Nut.
- 26. Spindle Collet.
- 27. Spindle Collet Screw.
- 28. Spindle Collet Screw Shoe.
- 29. Thrust Collar.
- 33X. Spindle Pulley.
- 35. Spindle Pulley Screw.
- 40X. Wrist-Joint Frame.
- 45. Wrist-Joint Frame Screw.
- 82. Wrist-Joint Swivel Frame Dog.
- A. B. Oil-holes.

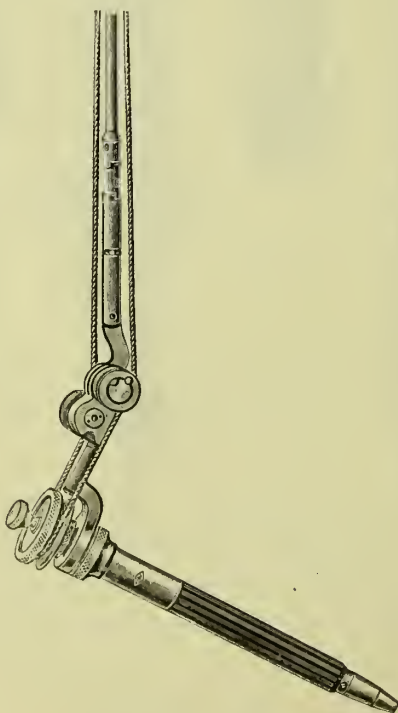


Fig. 3. Reduced view, showing belt movement in connection with Extension Arm Stop Attachment.

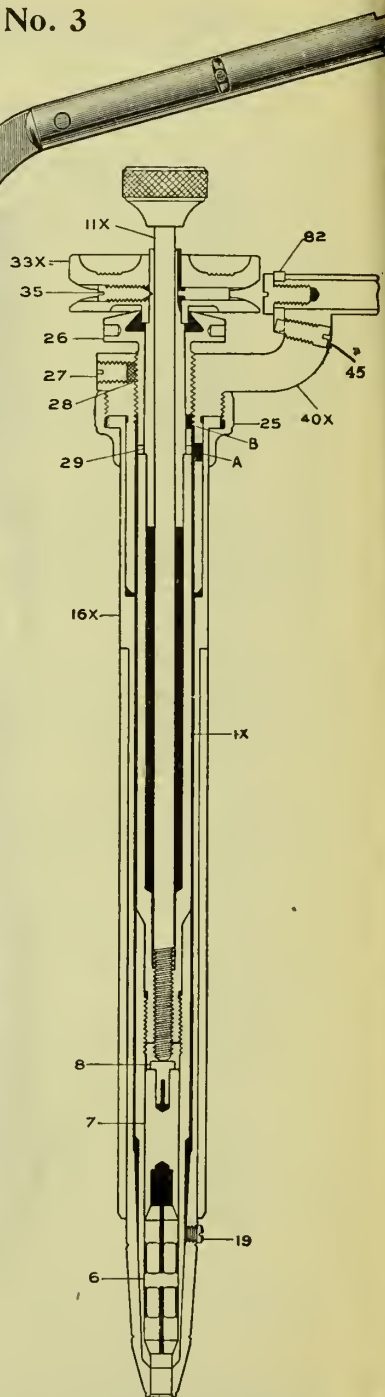


Fig. 2. Skeleton sectional view, showing detail of working parts.

Fig. 1. Full view, showing "open" of wrist-joint.



DORIOT HANDPIECE No. 3

The Doriot Handpiece No. 3, while preserving the individuality of form and method of operation which made its predecessors popular, has much greater efficiency and convenience and enhanced durability.

The design of this handpiece affords the most direct application of the power to the operation of the bit. The driven pulley (33 X) is fixed upon the spindle (1 X), leaving both ends of the handpiece free, and permitting the operation and adjustment of the mechanisms for holding the bits and taking up wear from the rear end of the handpiece. The devices for these purposes are all positive.

The bit-holding device is a double-chuck (6), identical with that in our No. 7 Handpiece and operated by a thrust movement from the rear end by a nut, to which it is connected by a shaft (11 X). It grasps the bit-shank at two points about an inch apart, constituting in effect a solid bearing of this length. Will take any standard-size straight-shank bit.

The spindle has taper bearings at both ends—in the nosepiece and in the collet (26). This provides the means for adjustments to efficiently take up the lateral and end wear.

The sheath (16 X) is attached to the wrist-joint frame (40 X) by means of a simple union nut (25). This gives a neatly designed, well-balanced handpiece and entirely closes in the bearing between the sheath and frame and reduces the wear in the swiveling of the sheath. It also provides a convenient and quick means of removing and replacing the sheath for oiling. The construction in general facilitates cleaning and making repairs when needed.

The parts forming the bearing between the sheath and the frame are steel, limiting the possibility of wear at this point.

Angle and Mallet Attachments, of which we make a special line for this handpiece, are quickly and firmly attached without removing or changing sheaths. Screw 19 forms a boss to keep the Angle Attachment from turning.

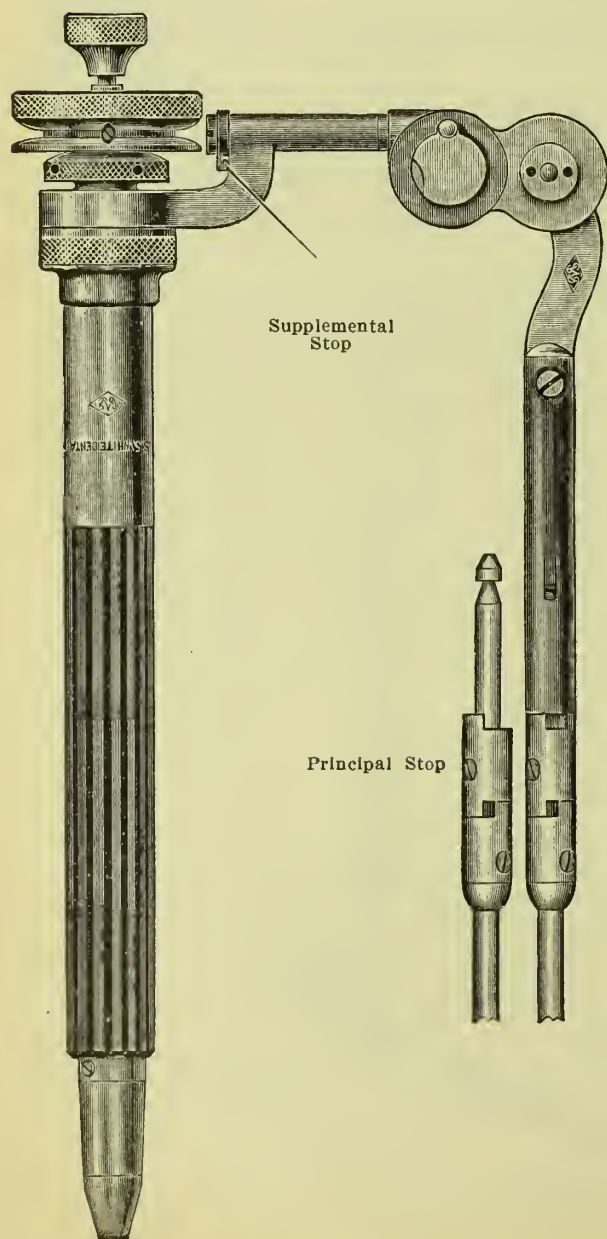
One of the most important advantages of Doriot Handpiece No. 3 is a device, or rather two devices, through the operation of which winding of the belt around the fore-arm is absolutely prevented. It is known as the Extension-Arm Stop Attachment (see next page). This Extension-Arm Stop Attachment affords all the freedom of motion required in any operation, but eliminates all possibility of the free working of the Handpiece being interfered with through the belt becoming wound up. The Wrist-Joint and Extension-Arm Attachment are necessary parts of all Doriot Handpieces.

The manipulation of the Handpiece has also been improved by increasing the angle of motion on the wrist-joint parts, whereby all feeling of restricted movement is eliminated.



EXTENSION-ARM STOP ATTACHMENT FOR DORIOT AND S. S. WHITE BELT ENGINES

Patented July 17, 1906



An invention which prevents interference with the free operation of dental Engines of the all-cord, rigid-arm type through the winding of the belt around the fore-arm. It acts by limiting the swiveling of the wrist-joint.

To make its operation more complete and more convenient, two devices are employed. The first, or principal stop, is a collar loosely swiveling near the end of the fore-arm, and shouldered at both ends in such wise that its motion permits one complete revolution, and no more, to the wrist-joint as a whole. The second, or supplemental stop, is a dog (82) placed on the end of the wrist-joint swivel-pin, which, working against a pin (45) in the wrist-joint frame, allows the handpiece an independent swiveling movement of about seven-eighths of a turn.

Ample freedom of movement for any operation is thus assured, while the winding of the belt around the arm is eliminated.

S. S. White Belt Engines as now made carry the Stop Attachment as described, —no extra charge. Dentists who do not care for it can readily dispense with its operation and have exactly the same unlimited swiveling motion of the wrist-joint as in the older form. We believe, however, that a test is all that is necessary to prove the great advantage and convenience of the Stop Attachment.



THE S. S. WHITE HANDPIECE CONNECTIONS

The Duplex-Spring

Originally the Handpieces of the S. S. White (Cable) Dental Engine were connected directly to the end of the flexible arm by means of a swivel.

Later it was found that a much more satisfactory connection was formed by the interposition of a flexible section between the Handpiece and the ferrule of the flexible arm. It afforded a wrist joint of extreme flexibility right at the base of the Handpiece, whose mobility was thereby considerably increased. This led to the introduction of the Duplex-Spring Connection, which for several years has been supplied as a part of all S. S. White Cable Engines. Incidentally, also, the interposition of this Connection led to the abandonment of the rocking standard, the greater mobility of the Handpiece accomplishing, through its increased area of effectiveness, every purpose for which the rocking standard stood.

The Slip-Joint

As the use of the Dental Engine spread, and practitioners studied its capabilities as a labor-saver, a need developed for a ready means of attaching and detaching Handpieces from the engine-arm. Many of them used two or more Handpieces for different classes of work; some as many different forms. It was expensive to buy a special engine head and arm for each Handpiece, and inconvenient to make the changes. To remedy the difficulty the Slip-Joint was devised. It is formed, as its name implies, by slipping one part over another, the connection of the two being controlled by a spring-latch. It solves the problem perfectly, enabling the dentist to attach and detach Handpieces almost instantaneously.

The invention of the Slip-Joint also led directly to another important advance. Up to that time devices for burring at angles to the line of the axis of the regular Handpiece were in the form of "attachments," to be slipped over the nose of the Handpiece and actuated through it the same as the regular bits. Transforming the Right, Contra, Acute, and Obtuse Angle Attachments into Handpieces which could be attached interchangeably with the regular Handpiece by means of the Slip-Joint extended and simplified the use of the Angle appliances. The attachment of Engine Mallets was simplified in the same way.

Duplex-Spring and Slip-Joint

Each of the devices just described, it will be seen, has peculiar merits, accomplishing a different useful purpose. Each can be utilized alone, although we do not recommend the Slip-Joint by itself, except with the S. S. White Belt Engine and the Doriot Engine, as, while it would permit quick changes, it would diminish the flexibility of the wrist-joint. Combined, they place the dentist in a most advantageous position. The combination Duplex-Spring and Slip-Joint Connection enables him to pass in a moment,—almost in the twinkling of an eye, actually in less time than it takes to change a bit,—from the use of any one Handpiece to another, or to substitute the Mallet. The Slip-Joint is coupled or uncoupled instantaneously, while with every change the supple wrist movement of the Duplex-Spring is retained.



THE S. S. WHITE HANDPIECE CONNECTIONS—(Continued)

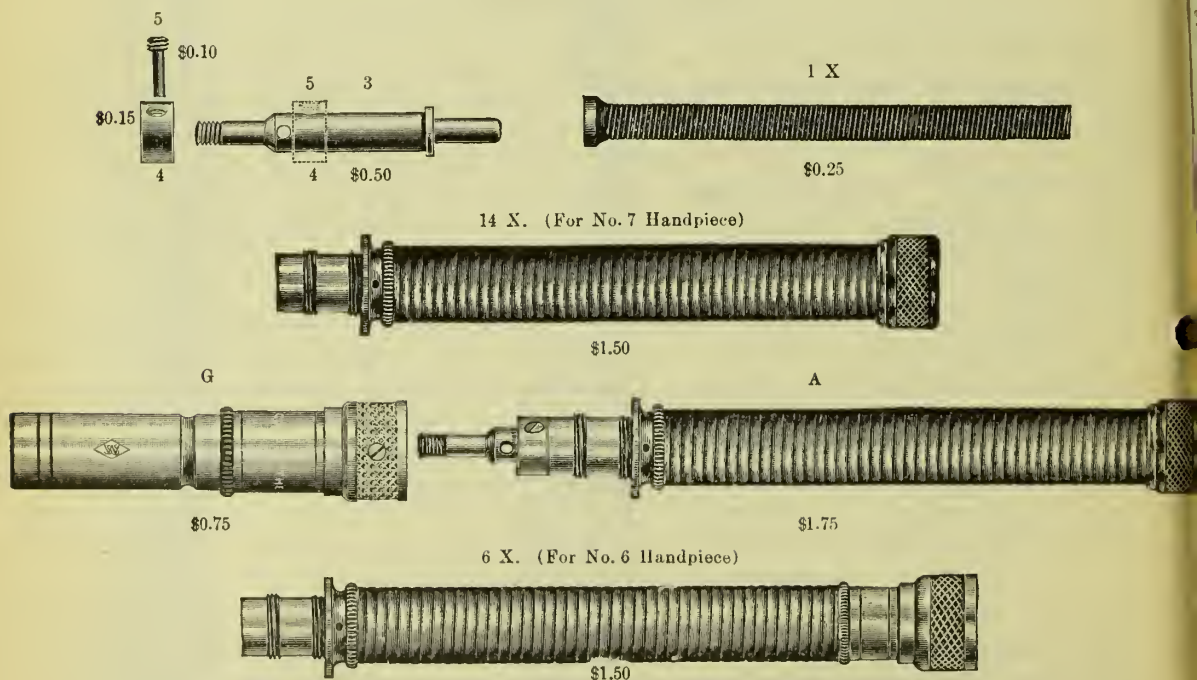
DUPLEX-SPRING CONNECTION

Duplex Driving Spring

The Duplex-Spring Connection largely increases the efficiency of the cable arm in that it confers upon it an additional radius of movement right at the point where it is most needed, and in that it lessens the weight to be supported by the hand.

The foundation of this connection is the Duplex Driving Spring (1 X), so-called because it is a double spring in one, and because of its function. It is made of steel, with a brass collar. It is flexible at every point and has great torsional strength. It is used as a short flexible shaft for the conveyance of power, as, between the cable of the S. S. White Engines and the Handpiece spindle, at the elbow joint of the Shaw Engine, etc. In these uses, it can be flexed upon itself with little diminution of the power conveyed, and is almost entirely free from "back-lash."

The Connection Parts



Besides the Duplex Driving Spring, the parts of the Duplex-Spring Connection are, a shaft (3), its collar (4) and pin (5), and a sheath (14 X). The shaft (3) is made of steel. The plain end is for the reception of the driving spring, the threaded end for connection with the cable end (102). The annular shoulder forms a bearing, on one side for the spring, and on the other for the sheath. The hole through the body nearest the threaded end is for passing a bodkin through to assist in attaching to the spring and the cable end. The other is for the reception of the collar (5), which fixes the collar to the shaft.



THE S. S. WHITE HANDPIECE CONNECTIONS—(Continued)

The sheath (14 X) is a coiled spring covered with kid with connections at each end. That at the inner end is a threaded union which fits the ferrule of the cable sheath of the Engine arm. A shoulder on the end of the union inside of the sheath affords a bearing for the shoulder of the driving-spring shaft. The connection at the outer end of the sheath is a threaded ferrule fitting the end of the Handpiece. (There are two forms of this ferrule connection, one for No. 6 Handpiece, the other for Nos. 4, 7, and 8. The only difference between them is in the threaded connection for the end of the Handpiece. The illustrations show the Duplex Spring (1 X), its shaft (3) and sheath (14 X) for Nos. 4, 7, and 8 Handpieces; part A, made up of these, the swivel end of the Engine arm (G); and the sheath (6 X) for No. 6 Handpiece.)

To assemble the parts, the brass end of the Duplex Driving Spring is forced upon the plain end of the shaft against the annular shoulder. The spring and shaft are then passed through the sheath, shaft end first, until the annular shoulder comes up against the inside shoulder of the sheath. The collar is then slipped on and fastened in place with the pin (5). The pin, it will be observed, has a thread near the head. This thread fits a corresponding thread in one side of the collar. In putting them together care should be taken to insert the pin properly, so as not to mar the threads, and also that the pin is set home properly, as, if the head projects in the slightest degree, the shaft will be locked and refuse to rotate, so close is the fitting of the parts.

There is a slight "play" between the collar of the shaft and the shoulder on the union, to allow the spring to flex without "binding."

SLIP-JOINT CONNECTION

The Slip-Joint Connection enables the dentist to use several Handpieces interchangeably on the same Engine, to use the same Handpiece on several different Engines, to replace a direct Handpiece with one working at an angle, or with the Engine Mallet, any of the changes being made so quickly as to cause almost no interference with work at the chair.

The Slip-Joint itself consists of a barrel or hub and a slip-ferrule fitting it neatly; the hub carries a spring latch which engages in a notch on the side of the ferrule, the whole made of hardened steel. When the latch is in the notch or keeper, the barrel and ferrule are firmly attached to each other, yet may be instantly disengaged.

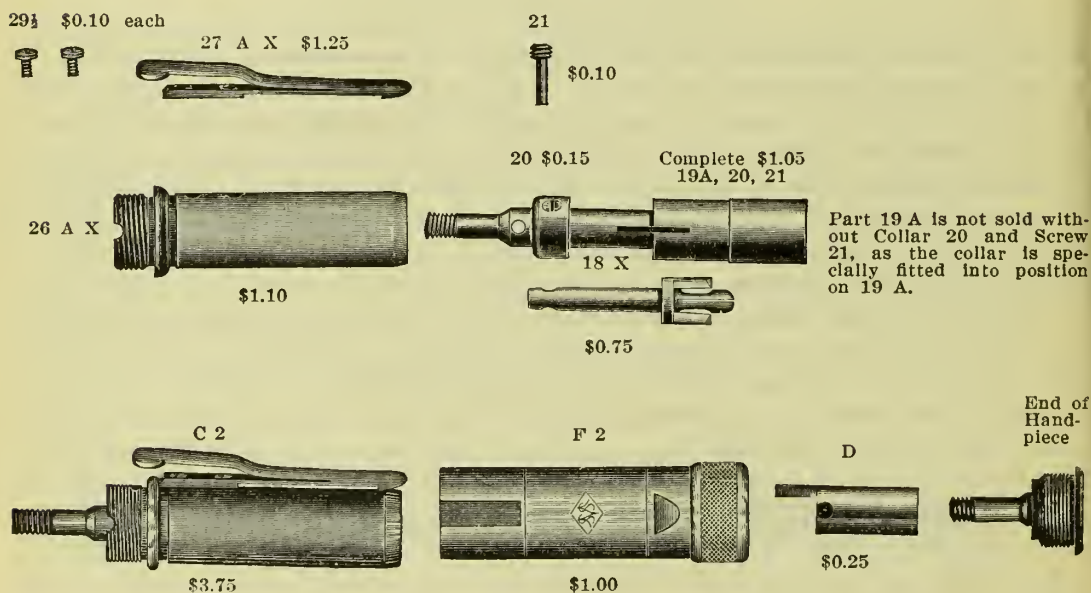
One end of the barrel is threaded to fit the ferrule of the Engine-arm sheath and the opposite end of the slip-ferrule of the Joint is threaded to connect the Handpiece.

To complete the connection—to join the cable end to the Handpiece spindle—a slip-joint shaft (19A) with a dog (16), tumbler shaft (18 X), a collar (20), and a collar screw (21), are provided.



THE S. S. WHITE HANDPIECE CONNECTIONS—(Continued)

SLIP-JOINT CONNECTION



The Slip-Joint shaft (19 A) has bearings in the barrel, and is held to it by the collar (20). It is chambered to receive the dog (D) and the tumbler shaft (18 X), the latter being fixed to it by the collar pin (21). The reduced end is threaded to fit the cable end (102) or the Duplex Spring (1 X). The slot crossing the shoulder is for the insertion of a thin instrument for the removal of the tumbler shaft. The perforation nearest the reduced end is for the insertion of a bodkin, the inner one for the collar screw.

The tumbler shaft (18 X) is split at one end to provide a compression jaw to tighten the hold of the part with which it engages. Near one end is a collar with two tapered projections or carriers to engage with the dog, the end of the shaft affording a bearing in the dog. The other end forms a connection with the Slip-Joint shaft (19 A) as already explained.

The dog (D) is a little hollow cylinder with a tapered projection at one end forming a lug which engages with similar lugs or carriers on the tumbler shaft. It is screwed to the end of the Hand-piece spindle, a hole permitting it to be tightened securely with the aid of a bodkin.



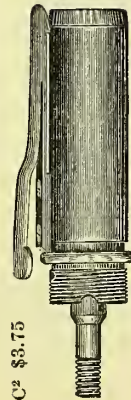
PARTS OF THE DUPLEX-SPRING AND SLIP-JOINT CONNECTION

For the S. S. WHITE CABLE ENGINES

FOR HANDPIECE No. 6



G \$0.75



C² \$3.75

F² \$1.00



A \$1.75

End of Handpiece



D \$0.25



The illustrations show the parts ready for assembling. Join G to A; A to C²; D to end of Handpiece, and slip F² over D and screw fast to Handpiece. C² and F² are connected by sliding F² over C², the spring on the latter holding them firmly together.

FOR HANDPIECES Nos. 7 and 8



G \$0.75



C² \$3.75



E² \$1.00



A \$1.75

End of Handpiece



D \$0.25



The illustrations show the parts ready for assembling. Join G to A; A to C²; D to end of Handpiece, and slip F² over D and screw fast to Handpiece. C² and F² are connected by sliding F² over C², the spring on the latter holding them firmly together.

Price, complete, either of above combinations \$7.50



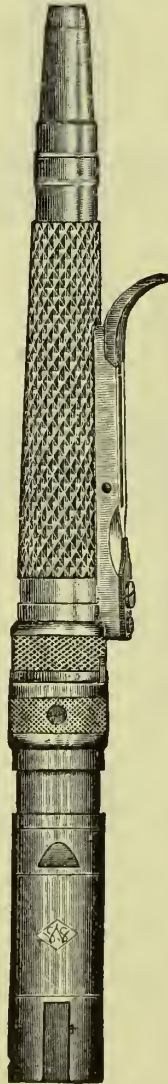
THE S. S. WHITE HANDPIECES FOR S. S. WHITE CABLE ENGINES

FITTED FOR THE
Duplex-Spring and Slip-Joint Connection

Slip-Joint, with Duplex-Spring Connection for S. S. White Engines



Cone-Journal Handpiece No. 6, with Ferrule and Dog, for Slip-Joint



Chuck Handpiece No. 7, with Ferrule and Dog, for Slip-Joint



Extra Handpieces may be fitted for the No. 2 Slip-Joint System, when one has the Slip-Joint Connection, by providing additional ferrules and dogs, as illustrated below.

For No. 6 Handpiece

E² \$1.00



D \$0.25



For Nos. 7 and 8 Handpieces

F² \$1.00



D \$0.25



PRICES

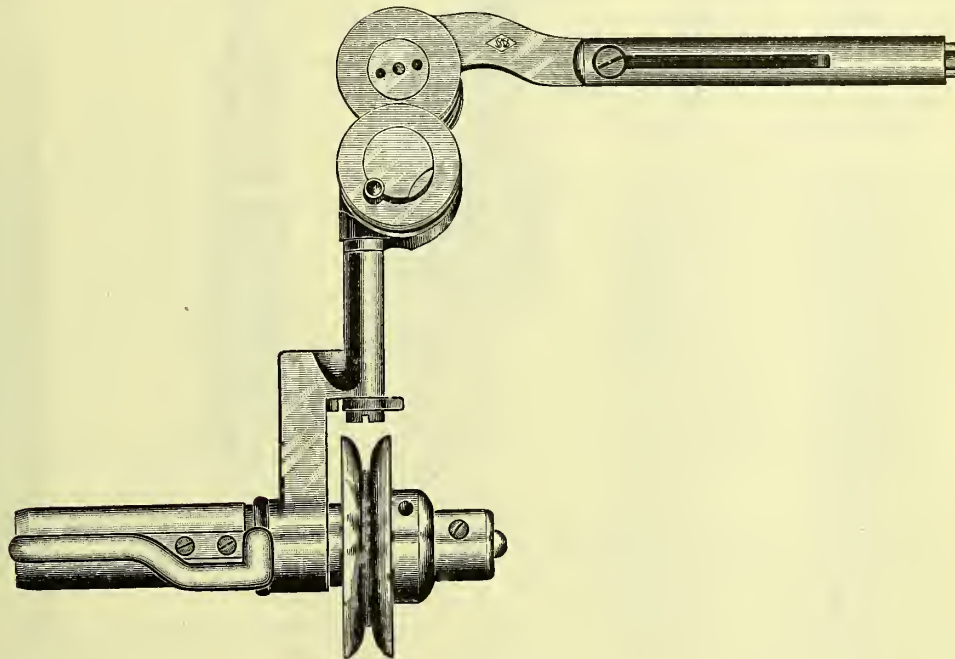
No. 6, with Slip-Joint and Duplex-Spring Connection, for S. S. White Cable Engines.....	each	\$15.50
No. 7, with Slip-Joint and Duplex-Spring Connection, for S. S. White Cable Engines.....	"	14.50
No. 6, with Duplex-Spring Connection, for S. S. White Cable Engines	"	10.50
No. 7, with Duplex-Spring Connection, for S. S. White Cable Engines	"	9.50
Slip-Joint, separately, including Dog and Ferrule, complete	"	5.00
Duplex-Spring Connection, separately	"	2.50



WRIST- AND SLIP-JOINT K 3

For Doriot and S. S. White Belt Engines

Patented July 17, 1906



This modification of the Slip-Joint permits the use upon the Doriot and S. S. White Belt Engines of any of our handpieces, angles, or mallets which are fitted for this Connection.

A frame swiveling in the fore-arm of the engine carries the wrist-joint idlers and the driven pulley. The shaft of the pulley is prolonged to form the shaft of the Slip-Joint.

The Slip-Joint (K 3) for the S. S. White Belt and Doriot Engines as now made is fitted for the Extension-Arm Stop Attachment (see page 20). It has, of course, the same "open" as the Doriot Handpiece No. 3. In fact, the Wrist-Joint and Extension Arm are the same as used on the Doriot Handpiece No. 3.

Those who already have either of these engines in use and who purchase the Slip-Joint K 3, can have the engine fore-arm fitted to take the new Attachment at an expense of \$1.50 by sending us the elbow combination.

Price \$10.00



S. S. WHITE RIGHT-ANGLES

The S. S. White Right-Angle is the most popular because the most efficient and most durable appliance of the kind ever offered to the profession.



Face view of Bit-Locking Device

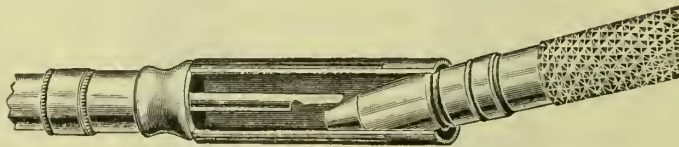
It affords a comparatively long and firm bearing for the bit, so that the instrument runs true, while the wear upon the mechanism is reduced to the minimum. The entire bit is $\frac{3}{8}$ -inch long, and of this $\frac{1}{2}$ -inch is in the shank or bearing. The bit is locked in the socket by a pivoted latch A, which is accurate and certain in its adjustment.

The insertion or removal of a bit is simplicity itself, requiring only the opening of the latch A, a slight turn of the bit, and the closing of the latch.

"A," for Handpieces No. 6, 7, or 8	\$4.00
"B," " Slip-Joint	6.00
"R," " Doriot Handpiece No. 3	4.00

In ordering, specify by its letter which fitting is wanted, and in case of "A" the number of the Handpiece with which it is to be used.

ONE METHOD OF DISABLING ANGLE ATTACHMENTS



We occasionally have Angle Attachments and Engine Mallets returned to us for repairs, in which we find the spindle bent. This will not occur, if the appliance is put on to the Handpiece properly. The illustration shows the wrong way of slipping the Attachment over the Handpiece nose; that is, at an angle. The connecting-bit of the spindle, instead of entering the nose of the Handpiece, is caught on it and pried to one side. Almost certainly this faulty method of attaching caused the bends found in the spindles referred to. The proper way is to slide the appliance on straight, right in the line of the Handpiece. The connecting-bit ends of the spindles of the Attachments and Mallets are centered, so that when the Handpiece and the appliance are brought together in the same line, the connecting-bit will enter the nose of the Handpiece and be fixed by the locking mechanism the same as an ordinary bur.

For Doriot
Handpiece No. 3



For
Handpieces
6, 7, and 8



For
Slip-Joint





S. S. WHITE CONTRA-ANGLES

Invented and Patented by DR. WILLIAM E. HARPER

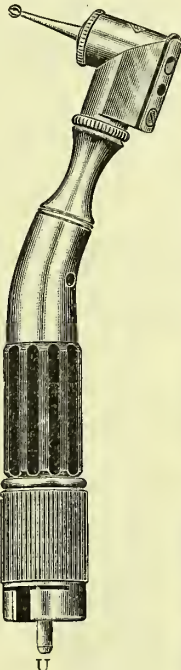
Patented January 30, 1900; October 15, 1901

In the "Contra-Angle" you have the reach of a changeable-angle handpiece without any trouble of adjustment, and without the "weak spot" of all changeable-angle devices. It is the right-angle handpiece with the head set at such an angle as to bring the bur-head almost into line with the axis. The bur locking device is the same as that of the S. S. White Right-Angle. It works true and steady, with no disposition to turn in the hand when force is applied.

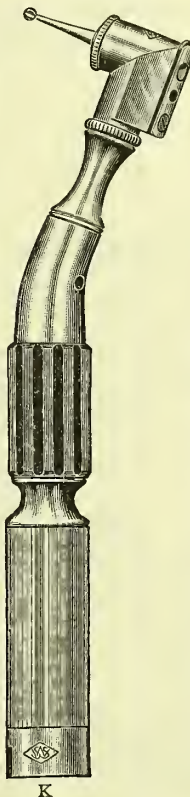
Made to fit Handpieces Nos. 6, 7, and 8, the Slip-Joint, and the Doriot Handpiece No. 3.

In ordering, specify by its letter which fitting is wanted, and in case of "K" the number of the handpiece with which it is to be used.

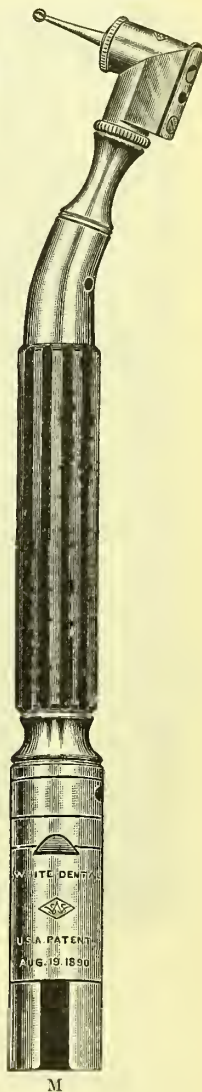
For Doriot Handpiece No. 3



For Handpieces 6, 7, and 8



For Slip-Joint



PRICES

"K," for Handpiece No. 6, 7, or 8	\$6.00
"M," " Slip-Joint S. S. White Belt Engine	8.00
"U," " Doriot Handpiece No. 3	6.00



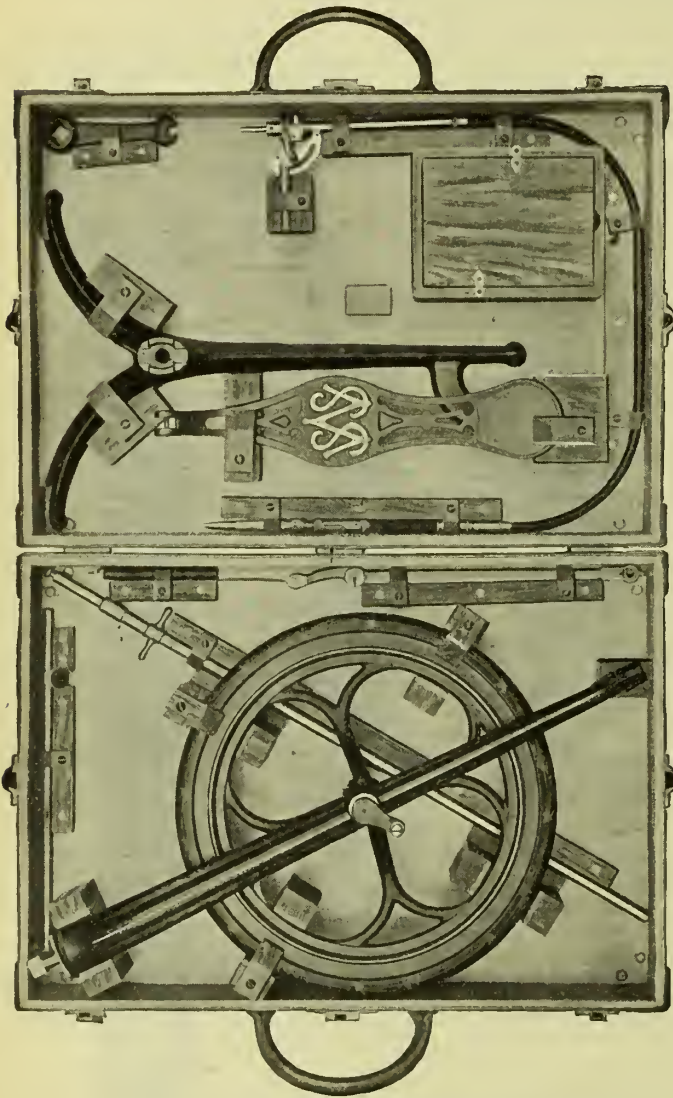
A SAFE LUBRICANT FOR HIGH SPEEDS

The dental engine, more particularly when run by the electric current, requires for lubrication an oil which won't gum, won't cause rust. S. S. White Engine Lubricant meets all the needs, is thin and light, lubricates thoroughly without fear of rust or gumming. It is specially adapted to engines or lathes run at high speeds, to handpieces, angle appliances, etc.

Per bottle \$0.25



CASE FOR THE DENTAL ENGINE



Easy to Carry

The Case Packed

The transportation of his engine is a serious problem for the traveling dentist, more especially in mountainous regions, where practically all freight is carried by "packing" it on mules. The problem is solved by the portable case shown herewith, which was devised for and is largely used by the dental surgeons connected with the United States Army, whose duties require frequent and sometimes hurried removals from one station to another.

This case opens like a suit case, and the two sides are provided with blocks and stays fitted to take and hold securely the various parts of the S. S. White Cable or Belt Engine. A compartment in one side serves to hold equipment.

The case can be unpacked and the Engine set up, with ease, in five (5) minutes. Taking the engine apart and packing it requires no longer time.

Strongly made, Leatheroid covered, with double handles, lock and catch locks, and metal corners; will stand hard usage. Size over all, $22\frac{1}{4} \times 15\frac{1}{2} \times 6\frac{1}{2}$ inches. Weight of engine packed in case, exclusive of equipment, about 40 pounds.

In ordering indicate whether for Cable or Belt Engine.

Price, Case, for either Engine \$18.00



THE S. S. WHITE ENGINE Mallet No. 4

As will appear from the illustration, this form of Engine Mallet is extremely compact and simple. Its large sales indicate that it answers the requirements of a great many who wish to use an Engine Mallet, but who insist that it shall be small in size.

A careful proportioning of journals and wearing surfaces, and a liberal use of hardened steel where excessive wear was likely to occur, have eliminated an element of weakness common to most appliances where considerable mechanism has to be placed in a very small space. These improvements increase largely not only the durability of the Mallet, but also its efficiency as a working tool.

Before placing the Mallet upon the market we ran several of them at high speeds, for a long period of time, with very gratifying results. The No. 4 Mallet works with the Engine running in either direction.

The point socket takes the regular automatic mallet points.

There are two methods of attaching to the dental engine. It may be attached to the handpiece in manner similar to the method employed with the angle attachments; or it may be fitted to the No. 2 slip-joint, the same as the angle handpieces. The latter is the preferable method, as it shortens the instrument and makes it more easy of manipulation.

The rapidity of the blow is of course regulated by the speed of the engine. Every revolution of the handpiece spindle gives a distinct blow. The rapidity of the blow approximates that of the Electric Mallet; its force is regulated by the small collar bearing the two knurled rings at *b*.

Screwing this collar to the right, increases the force of the blow; to the left, lightens it.

The small serrated finger slide, *c*, enables the operator to arrest the blow while the engine is running, particularly while he is picking up gold and carrying it to its place in the cavity. Slightly retracting the forefinger resting upon the slide disconnects the driving mechanism. Upon the slide being released a spring carries it forward, restoring the connection.

The instrument should be carefully oiled with the best quality of engine lubricant, a drop being introduced through each oil-hole. The tool-holder is oiled where it projects from the case and at the stop-slide.

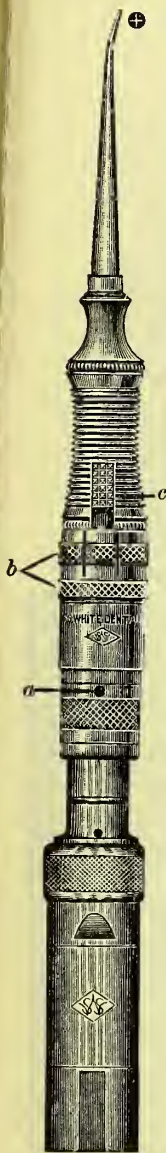
The principal journal is under the hole shown at *a* in the illustration. Before introducing the oil at this hole, revolve the spindle until a passage into the interior is seen to be clear for the oil can to reach the hammer mechanism.

We should strongly advise against taking this Mallet apart. The idea is this: The constant jar occasioned by the blow will shake loose any threads not firmly screwed up to their shoulders. Special pains therefore are taken in putting this Mallet together to screw everything up tight, so tight, in fact, that special pincers would be required to take it apart without doing damage. Ample facilities are afforded for oiling, so that there should be no need of dismembering.

PRICES

For Nos. 6, 7, and 8 Handpieces	\$6.00
" Slip-Joint	8.00
" Doriot Handpiece No. 3	6.00

Be sure to specify in ordering which fitting is wanted





ENGINE

MALLET No. 3A

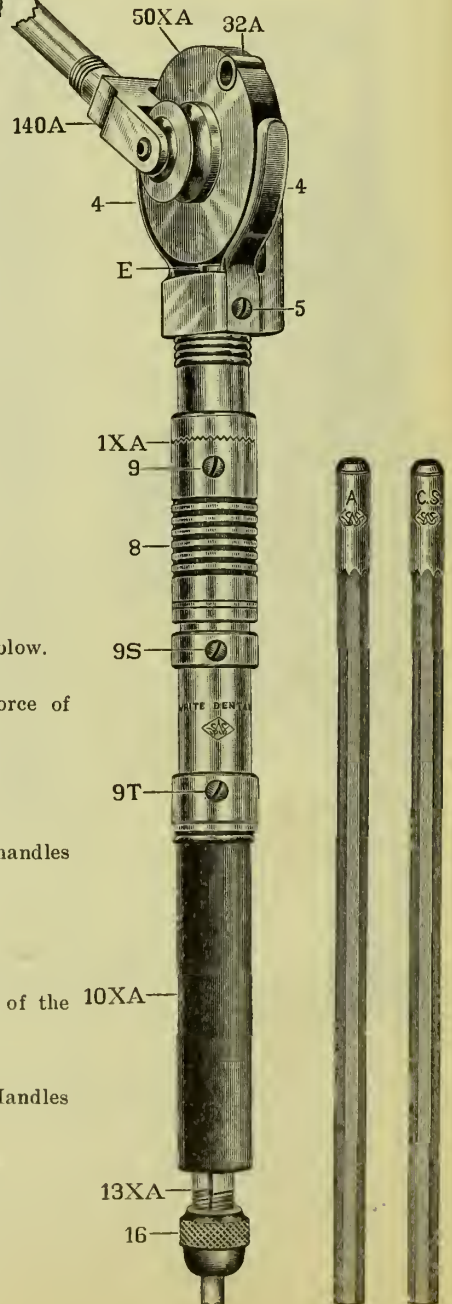
Description of Illustration

- No. 140A, Yoke for connecting Mallet to Engine-arm.
- No. 50XA, Hammer Wheel.
- No. 32A, Hammer.
- No. 4, Guards for hammer wheel.
- No. E, Head of plunger, upper end of 13XA.
- No. 1XA, Division of sleeve to permit regulation of the blow.
- No. 8, Section of sleeve by rotation of which the force of the blow is regulated.
- No. 10XA, Hard-rubber finger-hold.
- No. 13XA, Chuck at the end of plunger to hold socket handles in place.
- No. 16, Chuck nut.
- Nos. 5, 9, 9S, and 9T are screws, connecting various parts of the Mallet.

The side illustrations show the form of Socket Handles adapted to Engine Mallet No. 3A.

A, For Automatic points.

C.S., For Cone-Socket points.





S. S. WHITE ENGINE MALLET No. 3A FOR BELT ENGINE

At the instance of a number of ardent admirers of our Engine Mallet No. 3, we have revived it, with some important improvements, under the name, S. S. White Engine Mallet No. 3A.

The hammer is soldered fixedly in the rim of the wheel, though it may be readily changed in case of wear, to bring a new surface into play, by softening the solder, and turning the hammer as desired.

The blow of the Mallet is direct and is delivered only when the plugger point is held against the filling, which brings the head of the plunger into the path of the revolving hammer to receive its impact.

The plugger point is controlled and directed by the forefinger resting on the acorn chuck-nut 16. This chuck-nut operates the chuck 13XA, which is a continuation of the plunger E and holds the socket handle carrying the plugger point. By a slight movement of the forefinger the plunger head may be thrown into or out of the path of the revolving hammer.

The force of the blow is regulated by lengthening or shortening the plunger E, which is a momentary operation. At the point 1XA is a saw-tooth division of the Mallet sleeve. The section 8 is movable and interlocks with the head section to which it is held by a spring. Pulling the movable section away and turning it to the right lengthens the plunger, which increases the force of the blow; turning to the left, shortens the plunger (lightens the blow), and immediately on being released, the two sections of the sleeve interlock again at the new position. The change of blow is under absolute control, the movement of a single notch in the interlocking device causing a distinct difference in the stroke though scarcely perceptible to the touch. Any graduation of blow is thus available.

Either automatic or cone-socket points are available in this Mallet. Three handles for each are included in the price. Made only for use with the S. S. White Belt Engine.

Price \$12.00



MATERIALS FOR ENGINE TOOLS

Steel

The steels which we use in dentists' tools are made from formulas which were carefully prepared to provide just the qualities needed for the work. Not a rod of steel is accepted from the makers until it is tested and found to meet the requirements. The tempering is skilfully done, to give each instrument the degree of hardness best adapted to its work.

Corundum

The abrasive power of Corundum was for many years the mainstay of dentists for the trimming of crowns and roots and the other thousand and one uses which it found in practice. The various appliances are formed by incorporating Corundum powder with a binder and molding the compound into the requisite forms, which are then hardened.

Corundum Disks, Wheels, and Points should always be used wet, because the materials used as binders, while insoluble in water, are susceptible to heat. Running Disks, etc., dry would develop sufficient heat to soften the binder and render the appliance useless. Keeping them wet eliminates this risk.

Carborundum

With the fierce cutting qualities of Carborundum most dentists are familiar. In the manufacture of Carborundum Wheels, Disks, and Points, we have simply applied our usual methods; have taken the best quality of the raw product and have made it up in the best manner. Our Wheels, Disks, and Points are properly molded, are uniform in sizes, are dense and strong. (See second page of cover.)

Gem

The material known as "Gem" has won a high place because of its great abrasive power and its durability. It cuts fast and clean. The appliances of Gem are hard-baked, a process which apparently intensifies the original abrasiveness of the material, fitting them for hard, rough work. They are uniform in texture and continue effective working till worn down to the mandrel.

A great advantage of the Gem appliances is that they cut rather better dry than wet. They do not need to be pushed; simply holding them to their work will result more satisfactorily.

Gem Points are mounted on mandrels with cement,—not with shellac.

Diamond

Diamond tools are when rightly made and properly used the "perfection of clean, sharp, rapid-cutting devices for dentists' use." The Diamond Drills, Disks, Wheels, and Points which we sell are made in our own factories, and every tool is tested before it is put into our sales stock. They are made right.

In use, they must be kept wet, and they must not be pushed. Reversal of either of these rules will ruin any Diamond tool ever made. Diamond tools are expensive, and dissatisfaction will surely result from hasty or careless use. On the other hand, as evidence that with the right sort of manipulation they may be depended upon, we frequently drill several hundred cavities in porcelain teeth with a single Diamond drill.

Vulcarbo

Vulcarbo is our trade name for a compound of Soft Rubber loaded with Carborundum and then vulcanized in the forms sold. The mixing is so carefully and thoroughly done that we are assured of a vulcanized product which is homogeneous in texture, free from soft spots.

Vulcarbo is stiff without being brittle. It affords the fullest cutting power of the Carborundum with a tough structure which prevents breakage under any fair conditions of use. It is extremely durable; wears uniformly down till there is no more usable surface. The molds are made with the utmost nicety. Disks and Points are perfectly circular,—symmetrical in shape. When mounted properly they run true.



TRADE-MARK

"REVELATION" BURS

Reg. in U. S. Pat. Off.

The Cheapest and Most Satisfactory

The Best Test

Practically every dentist uses the dental engine, and necessarily dental burs for excavating dentin. The great majority of them use the "Revelation" Bur. The minority would join the majority if they were thoroughly convinced that the "Revelation" was the cheapest, most satisfactory bur for them to buy. The most convincing evidence upon these points would be the personal test. That sort of a test, to be conclusive, should extend over a considerable term, and is manifestly impracticable to the man who wants to know before he buys. In default of this absolutely convincing evidence, we offer a plain statement of facts, the rational consideration of which will surely establish the reasonableness of our claim.

FIG. 1

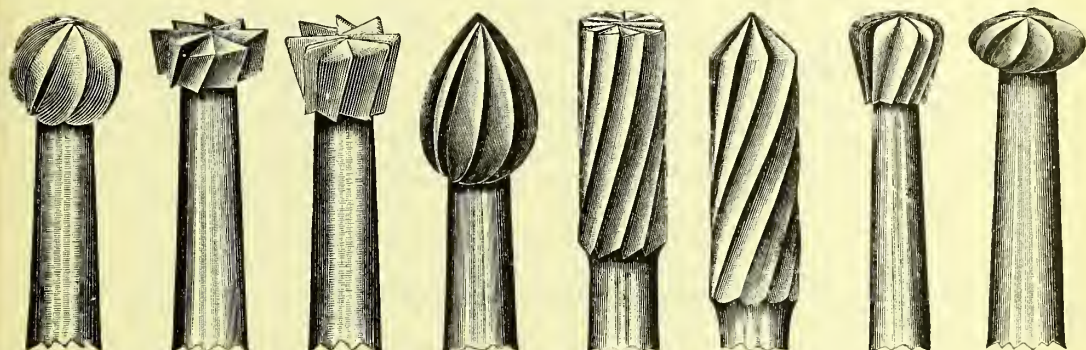
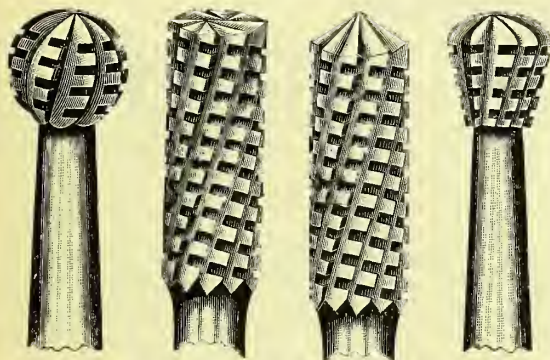
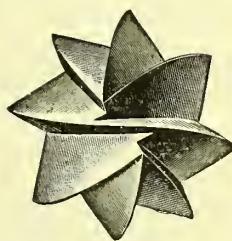


FIG. 2



"Revelation" Dentate Burs

FIG. 3



"Revelation" Bur. End view

Special Steel Used

First. The steel which makes the best cold chisel, or even the best knife blade, differs from that required for dental instruments. The steel for "Revelation" Burs is made to cut tooth-substance. "Revelation" Burs are made of steel specially manufactured for us. It is compounded according to the proportions, and manipulated by the manufacturer according to the processes, which have been found to produce the qualities which make the best cutting instruments for dentists.

Made by Machinery Throughout

Second. "Revelation" Burs are made by machinery,—every operation, from the rod to the finished instrument except the necessary handling and the tempering. This machinery was devised and built in our works. It represents fourteen years of investigation and experiment and an investment of over \$100,000. It works to the ten-thousandth part of an inch. Necessarily an instrument made by such machinery must be exactly made in every part. (See Figs. 1, 2, and 3, enlarged views of "Revelation" Bur heads. The perfection of the workmanship is not exaggerated.)



"REVELATION" BURS—(Continued)

FIG. 4

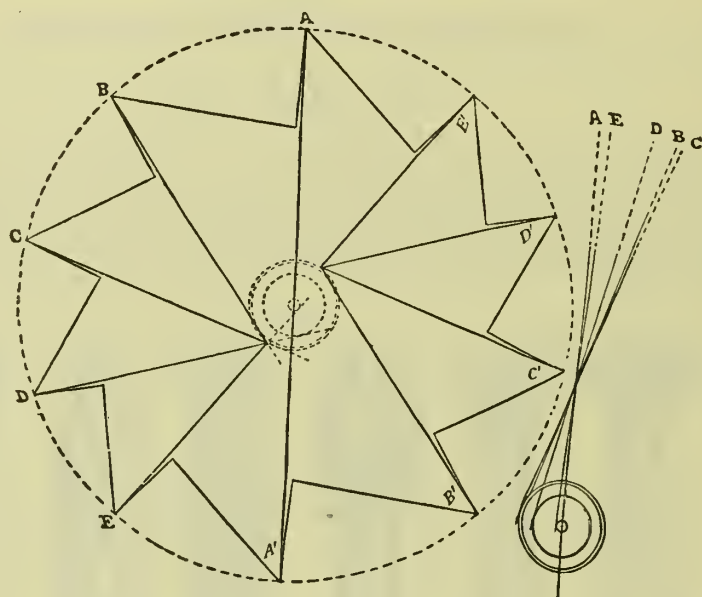


DIAGRAM OF "REVELATION" BUR

FIG. 5

False edge above circumference, caused
by union of wire edges raised
in filing

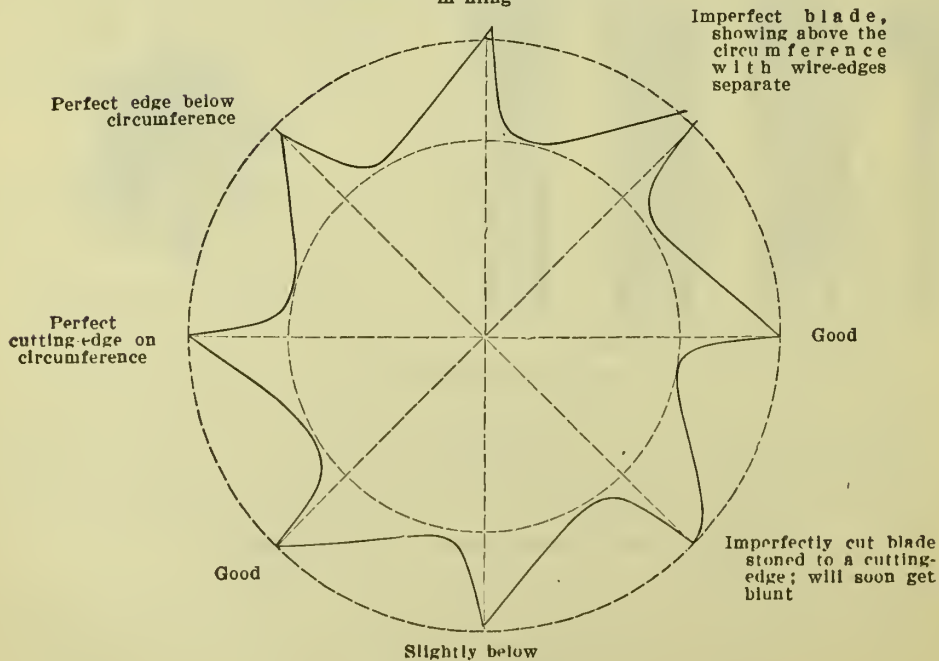


DIAGRAM OF HAND-MADE BUR



What the Microscope Shows

Third. Every "Revelation" Bur of a given number is exactly like every other Bur of the same number. This can be demonstrated by the microscope—a mere magnifying-glass will not enlarge sufficiently to permit a satisfactory conclusion.

Razor Sharp

Fourth. Every cutting-edge of every "Revelation" Bur is stoned to razor sharpness. This can be tested by drawing the head of a new Bur through the fingers or over the surface of a piece of writing-paper, for instance. These edges cut a clean shaving,—do not scrape or grind or tear out the tooth-substance in bits.

Cutting-Edges to Shave Dentin

Fifth. The cutting-edge of every blade of every "Revelation" Bur is exactly like every other. To be more explicit, the angle formed by the two surfaces the coming together of which makes the cutting-edge is exactly 51° , the correct angle for cutting dentin. Every cutting-edge also in a given Bur is of the same height. A perfect circle described from the center of the bur, with a radius of half its diameter, would just touch the edge of each blade. (See Fig. 4, contrast Fig. 5.)

Drills as Well as Burs

Sixth. In every "Revelation" Bur one cutting-edge is continued across the center, in effect constituting it a drill-edge. The Bur thus cuts in the line of its axis even more readily than at right-angles to it, which last is the best cutting plane of the ordinary bur. (See Fig. 3.) When advanced in the line of its axis, all the cutting-blades are brought into service at once; whereas, in the bur which cuts only on its side not more than two or three blades are effective at one time. The "Revelation" Bur needs no drill to open up the cavity to the required depth. It is a drill as well as a bur.

Provision for Clearance

Seventh. The grooves between the blades of a "Revelation" Bur enlarge regularly as they pass away from the center, providing for the easy and rapid clearance of the debris, thus avoiding a common cause for clogging and heating. (See Figs. 1 and 3.) Those at the sides of the drill edge are larger than the others, to provide for the relatively larger quantity of debris they have to clear.

Free from "Chatter"

Eighth. No two consecutive blades of a "Revelation" Bur are set at the same angle to the axis. They are so set in order that the cut made by one shall cross the path of its predecessor, instead of following in it. The object and effect is to obviate "chatter," which would occur if the various blades entered into one and the same groove. As a matter of fact, the blades of the two halves of the bur-head are arranged symmetrically in pairs,—the angle of each blade being exactly the same as that of the blade across the center of the head from it. Thus, A and A' have the same angle, B and B', etc. (See Fig. 4.)

The Temper


Ninth. The heads of "Revelation" Burs are tempered hard, and they are true on the shanks. The tempering and the correctness of the cutting-edges assure their durability. The hardness of the head runs down sharply at the back to spring-temper at the neck, to provide against breakage at this point, where the greatest strain is brought to bear on the smallest part of the instrument.

True on the Shanks

Tenth. The shanks of "Revelation" Burs are made as accurately to gage in diameter and length as the cutting-edges of the blades. They fit our handpieces, the tool-holders of which are also made to gage. Burs which do not fit the handpiece will rack it out quickly. The use of "Revelation" Burs is thus an economy in that it conserves the handpiece, independently of the fact that with burs fitting the handpiece greater accuracy and delicacy of work is possible.

Save Time, Labor, Money

The facts which we have adduced make it plain that "Revelation" Burs cut faster, easier, cleaner, with less pain to the patient, and last longer than any others; that they save time, save labor, save money, make friends with patients, and increase practice; that it is to the interest of every dentist to use them, from whatever viewpoint the matter is considered.

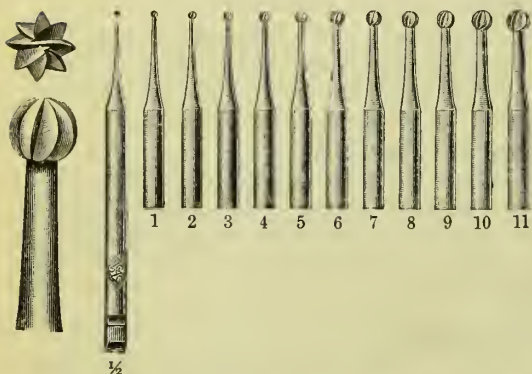
Genuine "Revelation" Burs wear the Trade--Mark

For illustrations of Forms and Sizes, and for Prices, see pages 39, 40

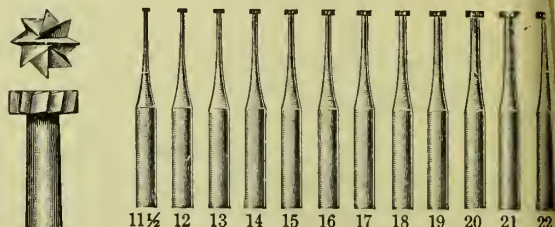


“REVELATION” EXCAVATING BURS FOR CUTTING DENTIN

ROUND



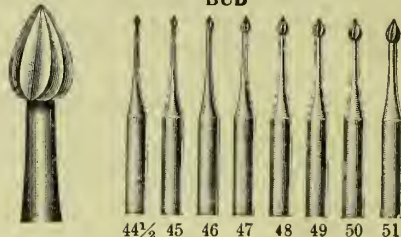
WHEEL



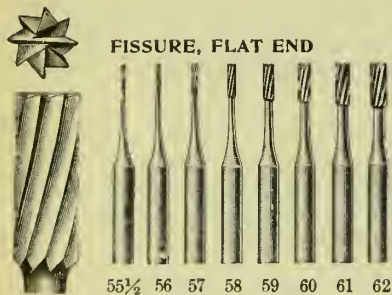
INVERTED CONE



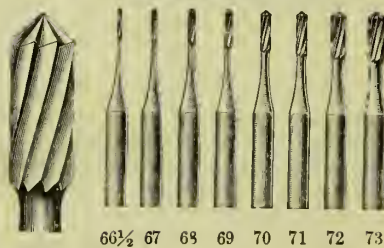
BUD



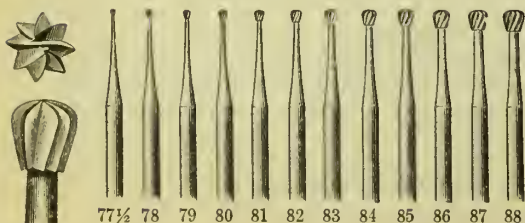
FISSURE, FLAT END



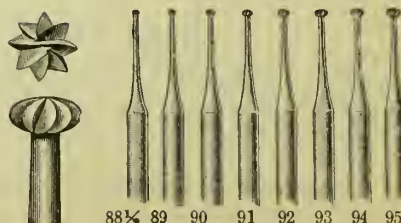
FISSURE, POINTED



PEAR



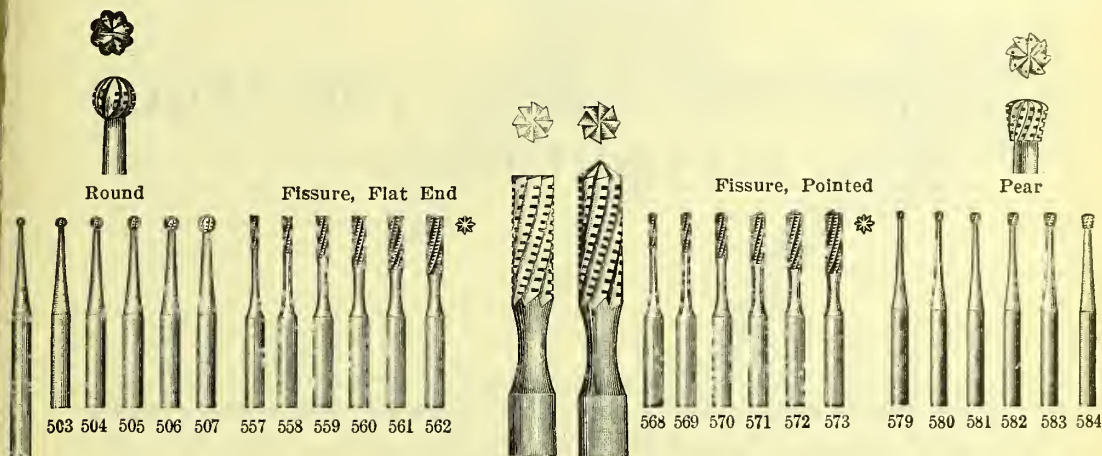
OVAL





“REVELATION” DENTATE BURS

FOR CUTTING ENAMEL



Our Dentate Burs are “Revelation” Burs with the cutting blades divided into teeth, which attack the enamel at a dozen points—close together—at once. They are as effective in cutting enamel as the smooth-edged burs are in shaving off the softer dentin.

PRICES

For Chuck Handpieces and Angle Attachments

Nos. ½ to 7 Round	} Per doz. \$1.00 “ ½ gro. 5.50 “ gro. 10.00
“ 11½ to 18 Wheel	
“ 33½ to 40 Inverted Cone	
“ 44½ to 51 Bud	
“ 77½ to 84 Pear	
“ 88½ to 95 Oval	

“ 55½ to 62 Flat-End Fissure	} Per doz. \$1.25 “ ½ gro. 7.00 “ gro. 13.00
“ 66½ to 73 Pointed-End “	
“ 502 to 507 Round	
“ 579 to 584 Pear	

“ 8 to 11 Round	} Per doz. \$1.50 “ ½ gro. 8.00 “ gro. 15.00
“ 19 to 22 Wheel	
“ 41 to 44 Inverted Cone	
“ 85 to 88 Pear	
“ 557 to 562 Flat-End Fissure	
“ 568 to 573 Pointed-End “	

For No. 6 (Cone Journal) Handpiece

Nos. ½ to 7 Round	} Per doz. \$1.25 “ ½ gro. 7.00 “ gro. 13.00
“ 11½ to 18 Wheel	
“ 33½ to 40 Inverted Cone	
“ 44½ to 51 Bud	
“ 77½ to 84 Pear	
“ 88½ to 95 Oval	

“ 55½ to 62 Flat-End Fissure	} Per doz. \$1.50 “ ½ gro. 8.00 “ gro. 15.00
“ 66½ to 73 Pointed-End “	
“ 502 to 507 Round	
“ 579 to 584 Pear	

“ 8 to 11 Round	} Per doz. \$1.75 “ ½ gro. 9.50 “ gro. 18.00
“ 19 to 22 Wheel	
“ 41 to 44 Inverted Cone	
“ 85 to 88 Pear	
“ 557 to 562 Flat-End Fissure	
“ 568 to 573 Pointed-End “	

You assort a gross or a half-gross to suit yourself, and each item is charged at its respective gross or half-gross rate.



“REVELATION” BURS FOR ANGLE ATTACHMENTS

We advise against the use of larger sizes of “Revelation” Burs in Angle Attachments than No. 7 Round, and the corresponding sizes in other shapes, as being destructive to the delicate mechanism of these appliances, but we keep them, in shapes in which they are made for direct action, because there is a demand for them.

In Ordering Burs for Angle Attachments, Always Specify the Style of the Appliance with which they are to be used

ALWAYS AND NEVER

Always oil the shank before inserting a bur in the bit-holder, and *never* leave a bur in the Handpiece or Angle Attachment after completing an operation. Following these suggestions faithfully will save trouble with the appliance, and, frequently, unnecessary expense in repairs caused by rust.



“REVELATION” BUR GLASS

In these days of perfection and imitation perfection in engine excavating-burs, it is important to be able to tell the true from the false.

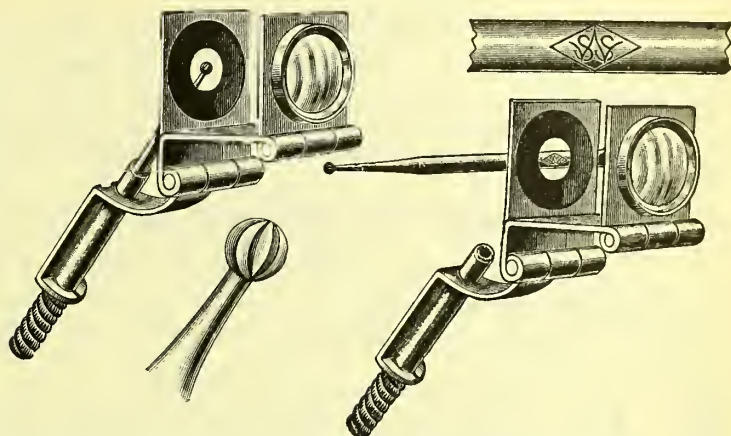
We have illustrated above an appliance for the examination of burs, which gives a remarkable clearness of definition, with an enlargement approaching that of a low-power microscope, at the price of an ordinary magnifying glass. The lens is really remarkable in the clearness of definition.

The illustration is a faithful endeavor to show just how much it enlarges and how clear and sharp is the enlargement. The bur used is a No. 4 “Revelation” Round. You can see the “Revelation” cut of the blades, and what is of equal importance in these days of imitation, you can be sure of the trade-

mark. Using one of these Glasses in examining burs will enable you always to get good sharp instruments.

The bur holder, which is detachable, serves as a handle for the appliance, both glass and stage of which are hinged to the frame. Metal parts nickel-plated all over.

Price \$1.00



BUR SHANK SHIELD



A simple perforated soft rubber disk which may be stretched onto the bit or mandrel shank, serving as a water-tight collar to stop out the saliva or wet polishing-powder, and so guard the handpiece from rust and from grinding wear. It is effective, simple, and cheap enough to be placed on every bit-shank in use.

Put up in boxes of 50.

Priceper box \$0.15

ROUND AND BUD BURS No. 20 BUR GAGE

These specially made hand-cut Burs will be found extremely useful in finishing vulcanite plates. They can also be used for removing large cement or amalgam fillings, and occasionally in preparing a very large cavity in a molar.

For Nos. 6 and 7 Handpieces. Specify for which they are wanted in ordering.

Priceeach \$0.40



In ordering Engine Instruments, always specify Handpiece for which they are desired



DENTAL ENGINE SURGICAL BURS

For Cutting away Diseased or Necrosed Bone, Amputating Roots,
Opening into the Antrum, etc.

Dentists have frequent occasion for performing minor surgical operations in the treatment of diseases of the antrum, and in the repair of the ravages of pyorrhea alveolaris, alveolar abscess, etc. Below we illustrate and describe some instruments specially devised to simplify such operations.

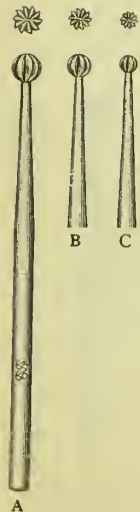
THE SCHAMBERG SURGICAL BURS

Devised by DR. M. I. SCHAMBERG

The two spear-shaped burs herewith shown were designed and introduced by Dr. Schamberg for facilitating the performance of the operation of amputating roots of teeth in the treatment of alveolar abscesses.

The cutting-blades are so formed and so arranged that they cut rapidly, clear easily, and can be readily sharpened. Used in the manner described in the next paragraph, they shear off the apical end of the root, assuring its thorough removal, and leaving the stump clean and smooth, so that the tissues heal over it readily. The shanks are long so as to prevent the handpiece coming in contact with the teeth. The burs have proved to be such good bone-cutting instruments that they are now used for many other surgical operations about the mouth. The antrum can be neatly and quickly penetrated with No. 2 and the opening enlarged with equal facility with No. 1. They have also been found to be of value in the surgical removal of impacted lower third molars.

In a paper on the surgical treatment of chronic alveolar abscess, published in the January 1906 issue of the *Dental Cosmos*, Dr. Schamberg says: "The operation that I advocate consists of a rapid ablation of the diseased area, including the end of the root, by means of a swiftly running surgical bur (see Figs. 1 and 2). The mouth having been washed with an antiseptic, the lip or cheek is held out of harm's way by means of a retractor. The point of entrance having been selected with a view to reaching the end of the root, the bur is firmly held to the part so as to prevent its traveling and doing damage to the soft tissues. A sharply defined round opening is thus made through the gum and alveolus, and the end of the root is burred away with a rapidity which makes it possible to perform the operation under the influence of nitrous oxid. Surgical Bur No. 1 has but four blades and is designed for rapid cutting of bone and tooth-structure. When driven rapidly by means of a good dental engine it will pass through the gum tissue and alveolus and will remove the end in less than a minute. It is used mainly upon the roots of the anterior teeth. No. 2 is constructed similarly, but is longer and more slender. It is designed to reach abscesses upon small roots and those of posterior teeth, where it is desirable to make a small opening so as to avoid the antrum above and the inferior dental canal below."



PRICE

Nos. 1 and 2each \$1.50

ALLPORT'S BURS

For Cutting Diseased Bone in the Treatment of Pyorrhea
Alveolaris, etc.

These burs, devised by the late Dr. W. W. Allport, have been largely used in cutting away dead or diseased bone between and about the roots of the teeth.

These are coarse-cut round stoned burs for operating between the roots of the molars.

PRICE

A, B, and Ceach \$0.50

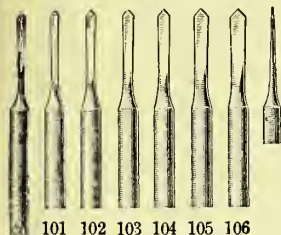


DRILLS

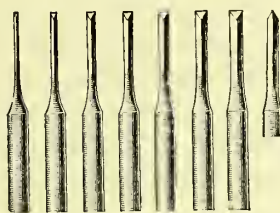
Flat, Spear Point

Square

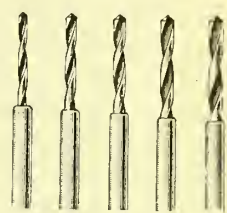
Twist



101 102 103 104 105 106



107 108 109 110 111 112 113



150 151 152 153 154

\$1.50 doz.

\$3.60 doz.

100

GATES-GLIDDEN NERVE-CANAL DRILLS



175 176 177

174



Our well-known Gates-Glidden Nerve-Canal Drills are made with the shank tapering from the head B to the shoulder C, so that if a break comes it is likely to be at the weakest spot, namely, near the shoulder. This leaves the shank accessible, so that it can be grasped with pliers and taken out.

The point A of the drill-head will not cut; it acts merely as a guide to enable the drill to follow a canal no wider than itself, until it reaches the root-apex, through which only the sharp point will pass, and produce a sensation of pain that gives notice of its protrusion; yet, unless the foramen is wider than the base of the guide, the Drill *will not cut through* the end of the root,—a danger that this form of point was especially designed to avoid.

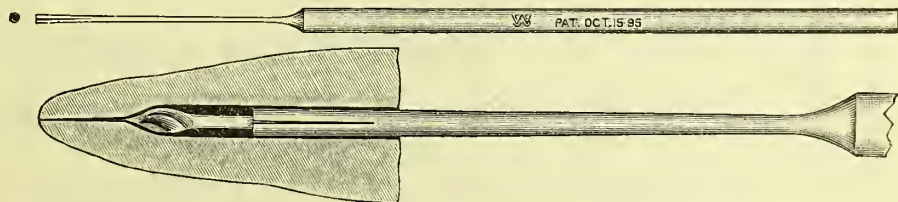
Using the series, one after the other, with care and judgment, even a tortuous canal may be suitably enlarged; but it should be kept in mind that many roots are thin at their apical portions, and their canals, if much enlarged, may be cut through laterally; hence the advisability of employing usually the smaller sizes of drills, and always the smallest first when the canal is narrow.

Made in four sizes, as illustrated, for any handpiece or angle attachment.

Priceeach \$0.35

DRILL EXTRACTOR

Patented October 15, 1895



Undue pressure on a Root-Canal Drill will sometimes cause the drill-head to break off in the canal. This Extractor has a split and threaded cone-socket, which, when carefully pushed and turned in the canal, will seize the broken drill-shank and effect its extraction. In some cases it may be best to first enlarge the canal before inserting the Extractor, which is shown in position by the illustration.

Price \$0.60



DRILLS FOR RETAINING-POINTS AND ANCHOR SCREWS

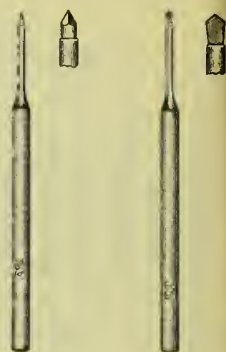
The Starting Drill will form a pit at the exact point desired; but if this point be not at first obtained, the pit center may be moved laterally by pressing the handpiece to that side while the drill is revolving.

The Limit Drill will bore only to the depth determined by the limit or shoulder, and it is therefore very desirable for use with the Anchor Tap.

These Drills are too small for exact illustration, but the enlarged side-cuts show their peculiarities.

Price, Starting Drills	each \$0.25
" Limit Drills	" .25

Starting Drill Limit Drill



DRILLS AND TAPS FOR ANGLE APPLIANCES AND HUB FOR SAME

Molar crowns are best mounted by first using the drill on the Engine, and then with the Hub shown below carefully rotating a tap of the same size as the screw-post. The post may be readily turned into the tapped root with a pair of pliers. Retaining-screw posts may also thus be fixed in posterior or other large cavities in molars and bicuspsids. The hub is designed to furnish a convenient means for manipulating the tap with the fingers when it cannot readily be used in the angle appliances. The tap is securely held in the hub by a set-screw.

Drills Taps

PRICES

Drills, AA, A, and B	each \$0.30
Taps, AA, A, and B	" .50
Hub	" .20



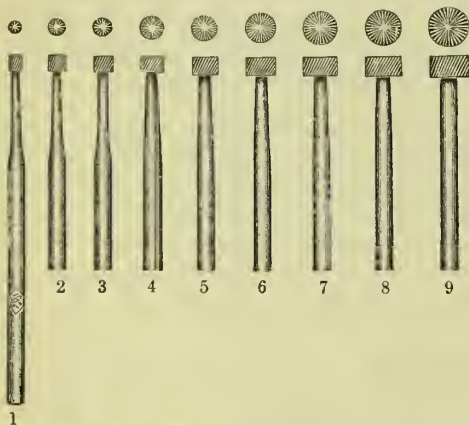
Hub



INLAY BURS

The carious portion of the natural tooth is cut out in the usual way with excavating burs, etc., and then formed into the proper shape to take the inlay by means of the inlay burs. These inlay burs are slightly coned and are fine-cut on sides and ends. They will, if handled properly, give a perfectly circular outline and smooth finish to the cavity. They can also be used and are largely used in preparing cavities for fused inlays, for which they are perfectly adapted. They are also very useful as plug-finishing burs.

Price, Inlay Burs, Nos. 1, 2, 3, 4, 5, 6...	each \$0.40
" " " No. 7 .....	.50
" " " Nos. 8 and 9 .....	.60



ROUND-END FINE-CUT INLAY FISSURE BURS

The four sizes of inlay burs here shown were especially designed for the purpose of preparing cavities for the reception of inlays. They are provided with long multiple leaves which permit rapid and smooth cutting of the enamel without danger of fracturing or crumbling the same.

The long parallel sides of these burs enable the operator to shape the sides of the cavity without rounding the margins, and the rounded ends prevent the cutting of sharp angles at the base of the cavity. The four sizes of the burs adapt them to all sizes of cavities. For No. 7 Handpiece and Angle Attachments.

Price, Nos. 1, 2, 3	each \$0.25
" No. 4	" .30

In ordering Engine Instruments always specify Handpiece for which they are desired






DIAMOND DRILLS

For making cavities in porcelain teeth for reception of gold fillings. In use they should always be kept wet and they should not be pushed, they will feed themselves.

Diamond Drills are made of splints of diamonds which are held by the compression of the steel with the aid of solder. The S. S. White Diamond Drills are made of the best selected splints in our own factory. *We guarantee the workmanship* of every drill. They are not surpassed by any diamond drills in the market, but we cannot guarantee them against the results of hasty or careless use. The necessary mode of manufacture makes it evident that they can be safely intrusted only to careful hands. A slight oscillating movement contributes to the effectiveness of their working.

Priceeach \$1.00

EXTENDED-POINT DIAMOND DRILLS

The trade--mark on a Diamond Drill is notice that the drill is properly made—that used as any Diamond Drill ought to be used, it will give satisfactory service.

The S. S. White Diamond Drill with Extended Point has this general superiority as a foundation, with some individual qualities of its own to specialize its value.

It is stronger than others,—the shank is substantial, is not weakened by reducing it for looks, does not bend under pressure but stands up firm and rigid. The diamond is set deeply in the socket, which is fitted to it so that it would be held firmly without soldering. The lessening, by this careful construction, of the quantity of solder necessary, is a further element of strength.

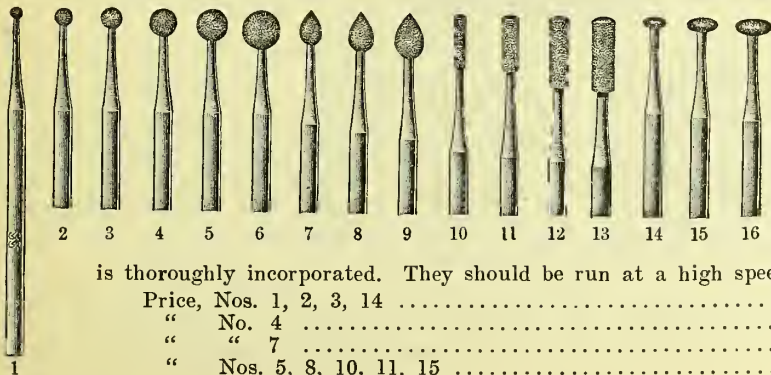
It runs true and is durable. The diamond point is centered. The length of the point permits better work, and also gives a longer life—it will outlast the ordinary drill.

For cutting retaining pits for fillings in porcelain teeth, for trimming or roughening the back of a porcelain inlay, for deepening or enlarging the socket in a detachable crown, or generally for any work in porcelain to which its size is suited.

A word as to running, from a wider and longer experience with diamond drills than the average dentist is likely to have: Run at high speed, without pushing (it will feed itself if held to the work) and keep wet. Use plenty of water,—never oil—as it will cut cleaner and faster, and besides the water will wash away the débris. An S. S. White Extended-Point Diamond Drill run in this way will show itself the perfection of rapid-cutting durable tools.

Priceeach \$2.00

DIAMOND BURS



The Diamond Burs possess all the wonderful cutting qualities of our other diamond instruments in the small forms needed for finishing and shaping cavity margins. The grit is very fine and they leave the margins very smooth.

The heads are made of soft steel, and the diamond

is thoroughly incorporated. They should be run at a high speed and kept wet.

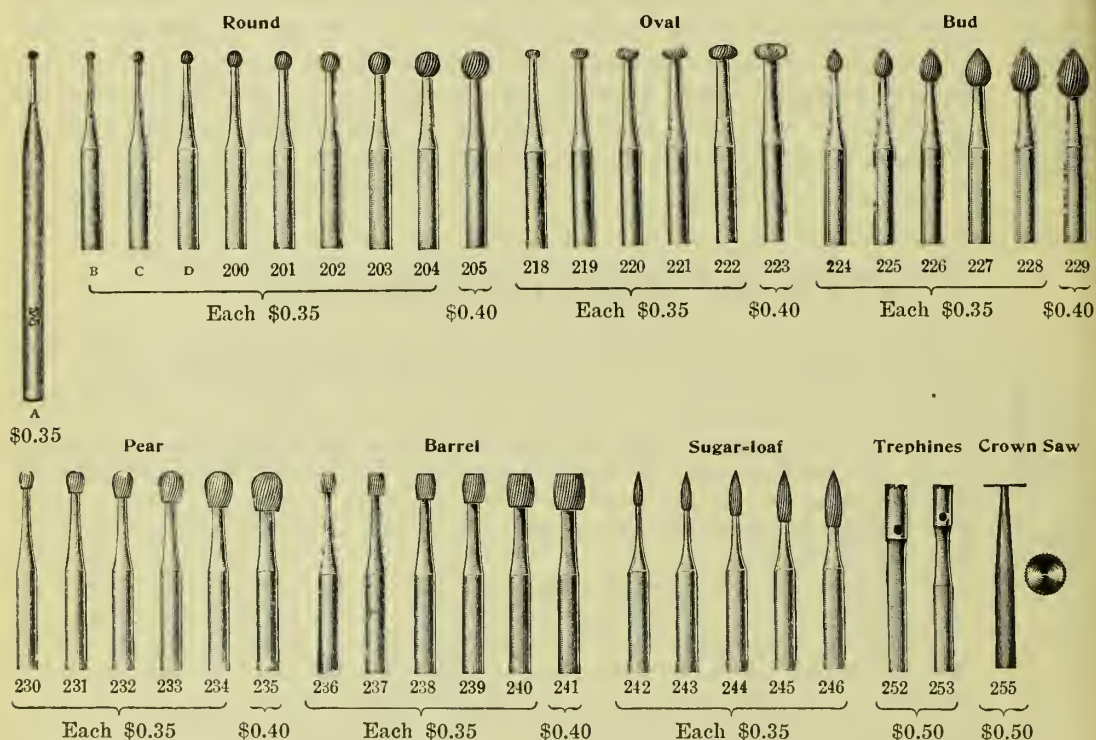
Price, Nos. 1, 2, 3, 14	each	\$0.50
“ No. 4	“	.60
“ “ 7	“	.70
“ Nos. 5, 8, 10, 11, 15	“	.80
“ “ 6, 9, 12, 13, 16	“	1.00

In ordering Engine Instruments, always specify Handpiece for which they are desired



PLUG-FINISHING BURS, ETC.

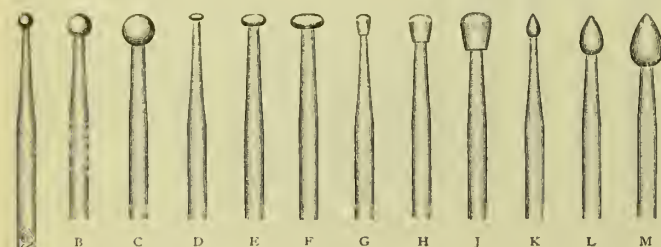
Our Plug-Finishing Burs for Trimming Gold Fillings are fine cut and work rapidly and smoothly. They are also useful in crown- and bridge-work. A variety of forms and sizes to meet all cases



The two sizes of Trephines are used in opening into the antrum in gaining access to the apex of an abscessed root, etc.

The Crown Saw is very useful in the case of a molar with a large cavity, when it is desired to amputate the crown. Room is made for the saw to get into the interior of the tooth, which can then be cut off from the inside without risk of injury to the gum.

BURNISHERS



These Burnishers, for finishing gold fillings in crown surfaces, have smooth heads. They will be found to be rapid and serviceable instruments

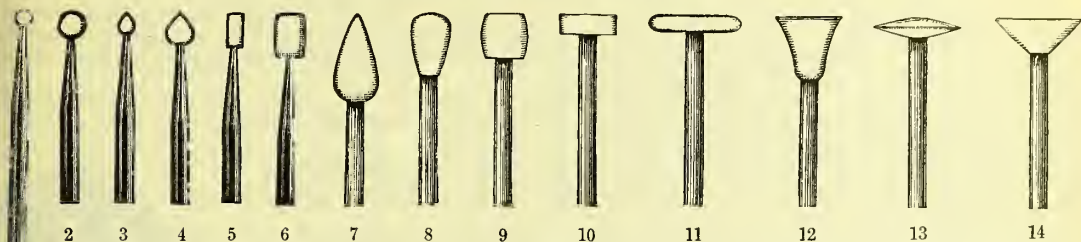
PRICE

Any letter \$0.25

In ordering Engine Instruments, always specify Handpiece for which they are desired



ARKANSAS STONES



Arkansas Stones Nos. 1 to 6 were designed by Dr. N. S. Jenkins for putting a beautiful smooth finish on the margin of a cavity or upon any surface of a natural or artificial tooth that has been cut or ground. Being small stone heads mounted upon mandrels they will not stand heavy pressure; but properly handled they will give most satisfactory service.

Nos. 7 to 14 are larger points for general polishing purposes.

Price, Arkansas Stones 1 to 6	each \$0.50
" " " 7 to 14	" 1.00

CAVITY TRIMMERS GEM—CARBORUNDUM

The five shapes of Cavity Trimmers here shown are nicely adapted to the work of preparing the margins of cavities, and for cutting away overhanging walls of enamel usually found in cavities of decay as they present themselves to the dentist. As they wear down in service they can be used in smaller and smaller cavities, as they will continue to cut until worn almost to the shaft of the mandrel on which they are mounted. Heretofore, we have made these Trimmers in Gem only; we now add the same forms in Carborundum.

Gem Cavity Trimmers can be used wet or dry, but they are best used dry, as the debris can be readily blown away, and thus a clear view of the operation will be presented at all times. High speed with light pressure gives the best results. Sold mounted on mandrels only.

Made for all our Handpieces and Angle Appliances

each \$0.15; per doz. \$1.50

Carborundum Cavity Trimmers put the well-known abrasiveness of Carborundum into the service of the dentist in this fine work. Used in the same way as those of Gem. They can be had unmounted or mounted (on a mandrel made specially) for our Direct or Angle Handpieces.

Unmounted	each \$0.04; per doz. \$0.40
Mounted	" .15; " 1.50



FLAT-END, TAPERED INLAY FISSURE BURS



With Bur's shaped as these are—with tapered heads,—there is no tendency to make an undercut. That is their great advantage.

The flat ends enable you to make sharper angles than with round-ended instruments. The ends cut as well as the sides.

The heads are long enough to reach from the surface of the tooth to the bottom of any cavity, thus permitting the dressing of the entire length of the cavity wall at one sweep.

They are all fine-cut; three of them with smooth blades, the other three dentate. Many will prefer to do the main cutting with the dentate Burs, finishing with the smooth numbers or with stones, etc. Others will prefer the smooth-bladed Burs for the actual cutting.

Another special use for these Burs is in the dressing of a tooth to receive a porcelain jacket crown. You can trim the tooth to the desired shape quickly and accurately.

Made for S. S. White No. 6 Handpiece, Chuck Handpieces, and for Angle Appliances.

Price, Nos. 600 to 602, Plain Cut for Chuck Handpieces and Angle Appliances	each \$0.20
" " 603 to 605, Dentate " " " "	" .25
" " 600 to 602, Plain Cut for No. 6 Handpiece	" .25
" " 603 to 605, Dentate " " " "	" .30



ROOT TRIMMERS

Devised by DR. GEORGE EVANS

Nos. 1 to 3 are taper burs for trimming the cervices of roots and rounding off angular points of natural crowns after they are reduced with corundum wheels and points. No. 1 is small at the point for shaping the approximal sides of the cervix; Nos. 2 and 3 medium and large, for use at other portions of the cervix, and for smoothing angular points.

Made for Nos. 6 and 7 Handpieces, also for Angle Appliances.

PRICE

Nos. 1, 2, 3each \$0.35

ROOT REAMERS

Devised by DR. F. A. PEESO

Designed especially for preparing roots for Richmond and other crowns which do not have tapered pins. The guide point carries the Reamer along the course of the canal, enlarging it to a uniform diameter to a point near the apex. This conformation gives a much firmer attachment for crowns of this character than if the canal were made tapering. The root itself is stronger because less of the tooth-structure is sacrificed. When necessary, the canal can be enlarged at one side to allow the pin to be bent, by bearing to that side after the canal is reamed out.

A suitably shaped cavity for the Logan Pin can be made in the same manner.

Made in three sizes to correspond with Nos. 13, 14, 15 round wire.

Priceeach \$0.60

ROOT-REAMERS AND FACERS

Suggested by DR. RODRIGUES OTTOLENGUI

Reamers

Facers

Safe-side Root-Facers

For shaping natural roots for Logan Crowns.

The Reamers have smooth ends and cut only on the sides. They correspond in size with the Logan Crown Pins Nos. 1, 2, and 3, and are used to enlarge the canal after it is drilled to the proper depth to fit the pin of the crown. The end of the root is then quickly, smoothly, and safely shaped with the Facer, whose guide-point acts as a pivot.

SAFE-SIDE ROOT-FACERS

These Facers supplement the Ottolengui Facers as a means for paring the labial border of the root-end beneath the gum-margin to conceal the junction of the crown

with the root. The rounded side of the Facer renders it safe from liability to wound the gum at its free margin.

Price, Root-reamers, Nos. 1, 2, 3each \$0.60

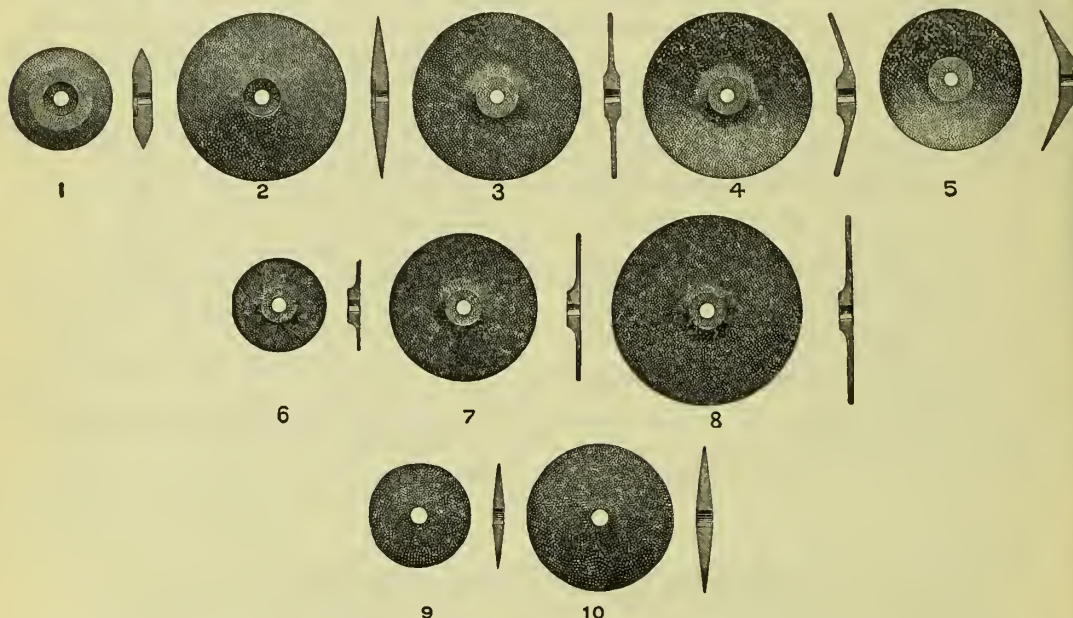
" Root-Facers, " 4, 5, 6, 7, 8, 9 " .80

In ordering Engine Instruments, always specify Handpiece for which they are desired

DISKS

CORUNDUM, CARBORUNDUM, VULCARBO

We make forms numbered from 1 to 10 inclusive in each of the three materials named above. These disks have certain qualities in common besides the shapes and sizes. In each the material is homogeneous, and under ordinary circumstances the disks can be used until worn nearly to the mandrel and be true and useful instruments to the last. They are all made in our own factories and are put up under the Trade-Mark.



Corundum was the first material of which abrasive disks for the dentist's use were made, and though it lacks something of the cutting power of carborundum, it possesses qualities which enable it to hold the first place among dental abraders. Made in only one grit (cutting).

Corundum Disks must be kept wet while in use.

Carborundum is the hardest and keenest cutting abrasive ever discovered with the exception of diamond dust. As used, it is a vitrified product, and disks, wheels, etc., may be run either wet or dry. Our Carborundum goods are made in our own factory and are sold under the Trade-Mark. Made in two grits, fine and medium.

Vulcarbo is the name we have given to a compound of carborundum and rubber, possessing the cutting power of carborundum with the toughness of rubber. The materials are thoroughly mixed, thus avoiding soft spots. Made in one grit, medium.

Vulcarbo Disks must be kept wet while in use.

For fuller description of materials see page 34.

PRICES

Disks, Corundum,	Nos. 1 to 10	.....	each \$0.05; per doz. \$0.50
" Carborundum,	" 1 to 10	.....	" .08; " .90
" Vulcarbo,	" 1 to 10	.....	" .05

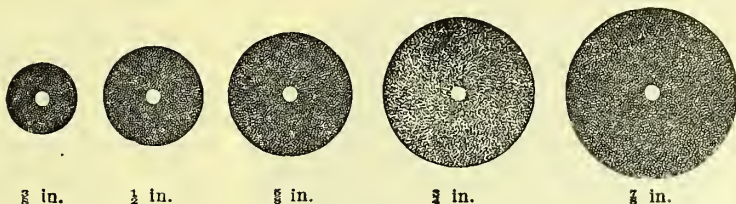
Shellac for Mounting Corundum Disks and Points

Shellac prepared in sticks $\frac{1}{4}$ -inch diameter, $2\frac{1}{2}$ inches long, put up in boxes of one dozen. Prepared also in powder for the same purpose.

Price in Sticks	.....	per box \$0.25
" Powder	.....	" .10



PAPER AND CLOTH DISKS



We believe that the Paper and Cloth Disks of our make are distinctly better than others. The papers from which we cut them are made to our order so that they may afford the special qualities required by the dentist, and which are not found in the papers sold in the general market.

All of these Disks are charged on one side, with the other smooth or safe. The backs are shellacked by a process which insures the thorough permeation of the material, giving it great strength and toughness.

Our Paper and Cloth Disks are tough and strong. The various grits are so attached that they do not rub off, but wear off in actual service. The boxes are always full count,—100 to the box.

The grits run from 00—fine, to 1—very coarse.

Cuttlefish-paper are the finest, giving the peculiar dull finish so desirable in labial fillings.

All put up in boxes of 100, each box containing a single kind, size, and grit.

Price, any Size, Grit or Kind, except Emery-Cloth.....per box \$0.10; per dozen boxes \$1.00

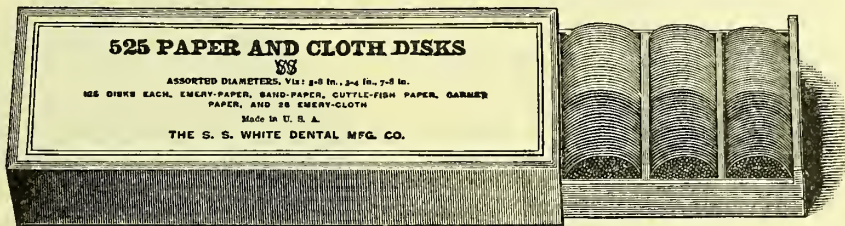
“ Emery-Cloth, any Sizeper box .20; per dozen boxes 2.00

Sand-Paper, Emery-Paper, and Carborundum Paper Disks are made in all of the sizes shown above and in four grits, 00, 0, 1, and 1.

Garnet-Paper Disks in all the sizes shown, and three grits, 00, 0, and 1.

Cuttlefish-Paper in all sizes shown, and two grits, regular and fine.

Emery-Cloth in all sizes, grit 0, only.



The box of 525 offers an assortment of Emery, Sand, Garnet, and Cuttlefish-Paper and Emery Cloth Disks classified by diameters. A glance at the illustration at once commends this form of package.

Priceper box \$0.50

FRENCH EMERY-PAPER DISKS

Single-face, double-face. One grit, as fine or finer than Cuttlefish.

The single-face are made in all the sizes from 3/8 in. to 7/8 inch, as shown above. Sizes put up separately in boxes containing 100.

Price, French Emery-Paper Disks, Single Face.....per box \$0.10; per dozen boxes \$1.00

The double-face are made in one size only, 3/4-inch

Put up in boxes containing 100.

Price, French Emery-Paper Disks, Double Face.....per box \$0.20; per dozen boxes \$2.00

Trade-Mark

Perfection Cloth Disks

Reg. in U. S. Pat. Off.

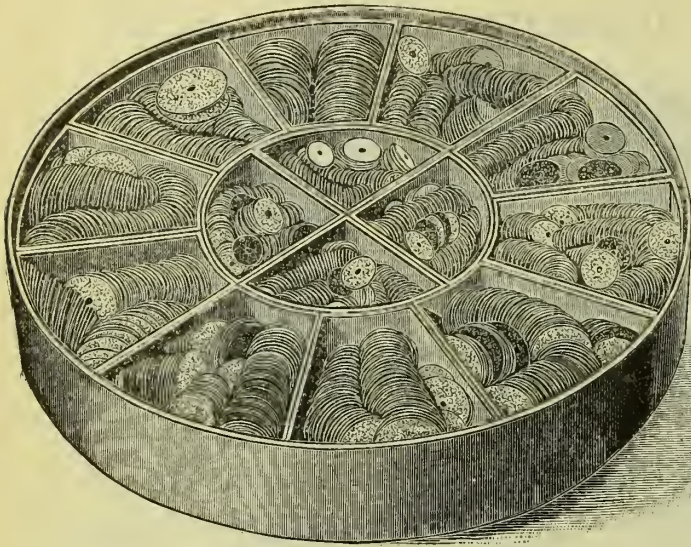
These Disks, made from the cloth used in Perfection Strips, have the same advantages which made the popularity of the Strips. They are thin, tough, and durable. Charged on a foundation especially adapted for the purpose, the materials cling to it until worn away by actual use. Not the least important characteristic in these Disks is their extreme thinness, which permits them to be used in very narrow spaces.

Made in four varieties: Garnet, coarse cutting; Lava, fine cutting; Rouge, polishing; Carborundum, medium cutting. The four varieties afford all the grades necessary in finishing a filling. One size, 3/4 inch diameter.

Put up in boxes of 100.

Priceper box \$0.20; per dozen boxes \$2.00

In ordering Paper or cloth Disks, state kind, size, and grit wanted
Unless some other size and grit is specified, we always send the 3/4-inch and the 0 Grit



DISK TRAY

Suggested by DR. PAUL VOIGT

The Disk Tray is about 5 inches in diameter and $1\frac{3}{8}$ inches deep, and has a cover not shown in the illustration. It contains fourteen compartments, affording separate spaces for that many varieties and sizes of disks.

Made of pasteboard, neatly papered; is durable, and forms a handy holder for the disks.

Sold with 1400 Paper Disks, four varieties, well assorted as to sizes, each kind and size in a separate compartment.

Assorted as follows:

- Sand-Paper, 100 each diameter, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{7}{8}$ inch.
- Emery-Paper, 100 each diameter, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ inch.
- Garnet-Paper, 100 each diameter, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{7}{8}$ inch.
- Cuttlefish-Paper, 100 each diameter, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ inch.

To refill the Tray, disks may be ordered from any of our regular stock.

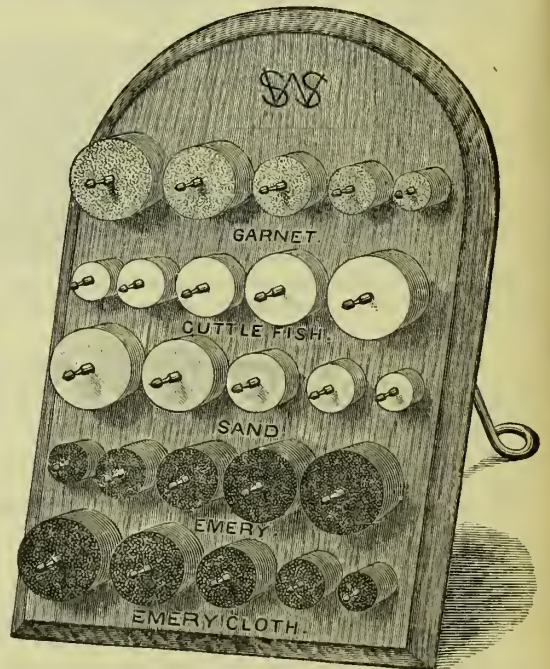
Price, including 1400 Assorted Disks \$1.50

THE DISK EASEL

The Disk Easel keeps before the dentist twenty-five different kinds, sizes, and grits of disks, every one of them equally handy to get at, so that no time is lost in selecting the one wanted. A glance of the eye and a movement of the arm and the disk is selected and in the hand ready for use. Nothing else has been offered that approaches this device in convenience for the purpose.

As sold the Disk Easel carries 112 Paper Disks each of Emery, Sand, Cuttlefish, and Garnet, and 77 of the Emery Cloth, assorted in sizes $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{7}{8}$ inch. In refilling any of these can be substituted by others.

The Disk Easel can be set on the bracket-table as an easel, or hung up where convenient to the eye and hand of the operator.



Price, including 525 Assorted Disks..\$1.00

Size is $7\frac{1}{4}$ in. long by $4\frac{1}{4}$ in. wide

WASHERS FOR ENGINE DISKS

Suggested by DR. J. L. BUCHANAN

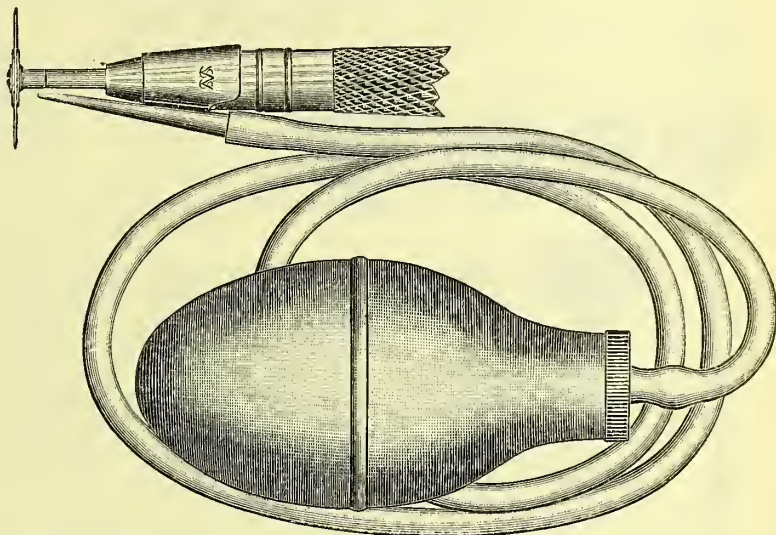
Small rubber Washers on either side of the disk will be found a useful device in holding thin disks securely and preventing their being torn out at the center when under pressure. The Washers are cut from rubber cloth and put up in convenient form.

Price, per box of 100 \$0.20



DISK MOISTENER

Devised by DR. C. E. EDWARDS



This appliance has a split sleeve to fit over the handpiece nose, and carries a little pipe connected by a rubber tube with a rubber bulb which may be held in the palm of the hand with the handpiece.

The bulb being filled with water, a fine stream may be thrown upon Disks and Points, and it is especially needed when using Diamond Disks, Drills, etc., as these are quickly spoiled by running dry.

This instrument is an excellent chip blower, using air instead of water.

Supplied for any of our handpieces.

Price \$0.75

PAPER DISK LUBRICATOR

The object of the Paper Disk Lubricator is to eliminate the rasping sound of the disk working upon the fillings, which is most unpleasant to the patient. Another advantage gained by the use of the Paper Disk Lubricator is in lessening the liability of the disk to catch in the rubber dam.

The Lubricator is of about the consistence of beeswax, is free from disagreeable odor or taste, and melts at so low a temperature that holding the end of a stick of it against the revolving disk develops sufficient heat to carry the preparation over the surface of the disk.

When so coated, the grinding of the gritty surface applied to the filling is almost entirely masked, and the disk is stiffened so that it does its work more effectively.

Disks coated with Paper Disk Lubricator retain the gold which they remove from the filling. By saving and burning them, this can be recovered.

Put up in the form of a stick (shown full size at the left), covered with tin foil, which is to be stripped off as the Lubricator is used. The illustration to the right is a representation of a disk after use, the gold being shown by the nebulous appearance.

Price \$0.10



POLISHING MATERIALS

The variety of Powders for polishing and finishing here offered will probably meet all preferences. Used with felt and leather buffs, wood points and disks, hard-rubber disks, and particularly useful with soft-rubber disks and bufs.

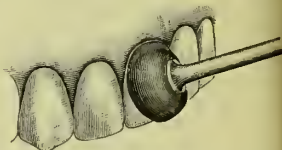
Abrada, Nos. 1 and 2	per stick	\$0.15
Arkansas Stone Powder	per box	.15
Chalk, Prepared	per lb.	.15
Crocus	per box	.15
Corundum Flour	"	.15
" " Extra Fine	"	.15
Emery	"	.15
Polishing Putty (Oxid of Tin)	"	.15
Pumice-Stone	per lb. \$0.10;	" .10
" Flour (Very Fine)	"	.15
Rottenstone	"	.15
Rouge	"	.20
Rouge Stick	per stick	.15
Tripoli	per box	.15



SOFT-RUBBER POLISHING CUPS

Corrugated Inside

Suggested by DR. J. B. WOOD

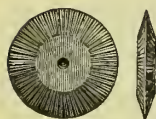


These little Cups of Soft Rubber will be found among the most useful appliances for cleansing and polishing the natural teeth. Under slight pressure the cup adapts itself to the shape of the tooth, carrying the polishing powder to every portion of the surface without discomfort to the patient. The lingual and palatal surfaces are as readily operated on as the labial and buccal faces. The corrugated interior surface aids in holding polishing material and makes the operation more effective. Three sizes, for Mandrels Nos. 303, 304, and 321.

Priceeach \$0.04; per dozen \$0.40

CORRUGATED SOFT-RUBBER DISK

Suggested by DR. C. E. FRANCIS



No. 1.

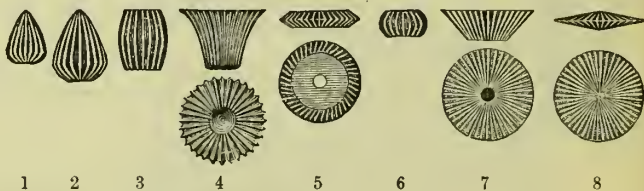
The Disk of Soft Rubber, with CORRUGATED surfaces, is used for carrying powders, either for polishing the natural teeth or for finishing fillings.

Can be used on Mandrels Nos. 302, 303, and 321.

Priceeach \$0.04; per dozen \$0.40

CORRUGATED SOFT-RUBBER POINTS

Can be used on Mandrels Nos. 300, 301, 302, 303, and 321, the two last named being preferable for points Nos. 5, 7, and 8.

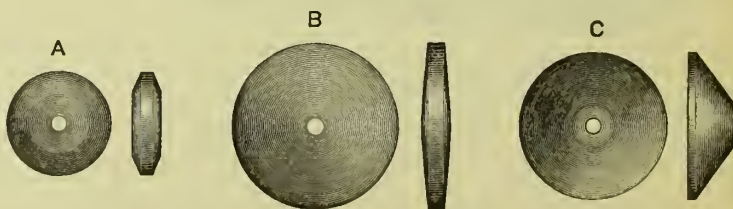


Price..each \$0.04; per doz. \$0.40

SOFT-RUBBER WHEELS A, B, AND C

Designed for finishing vulcanite and metal dentures, especially between the teeth, making festoons, etc.

Wheels A, B, and C can be mounted upon mandrels No. 303 and No. 321, and then used in either the engine or lathe.

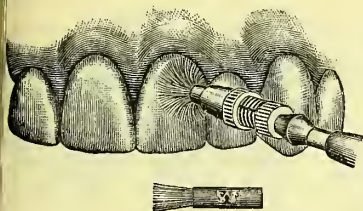


PRICE

Wheels, A, B, and Ceach \$0.05



TOOTH-POLISHING BRUSH



These inexpensive little Brushes are really a remarkably useful helper. They cost so little that their use favors the cleanly policy of a new brush for each patient. But, aside from this, their usefulness in cleaning the natural teeth makes them almost indispensable. Spread out by pressure to a fan-like edge they carry the polishing powder under the free margins without injury to the gum. The cervical margins of fillings may also be perfectly polished in the same manner.

Four grades, Soft, Medium, Stiff, and Extra Stiff.

Used with Porte-Polisher No. 307.

Put up in boxes containing a dozen of one grade or an assortment consisting of soft, medium, and stiff.

Price	per doz.	\$0.20
"	per gross	2.00

TOOTH-BRUSH WHEELS

Bone Center

Metal Center



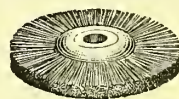
No. 1



No. 2



No. 4



No. 5

Nos. 1 and 2 are made of three grades of bristles: soft, medium, and stiff.

Nos. 4 and 5 are made only of two grades: soft and stiff.

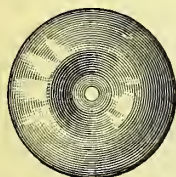
PRICES

No. 1, Cup Shape, to be used with Porte-Polisher No. 307	\$0.15
" 2, Straight, used with Porte-Polisher No. 307 .....	.20
" 4, Cup Shape and 5 straight, to be used on Mandrel No. 303 .....	.25

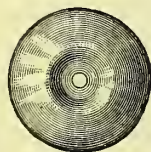
BRIGHT-METAL SHIELDS

FIG. 1

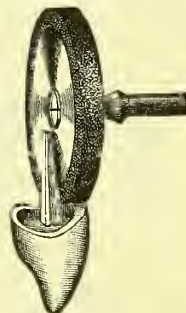
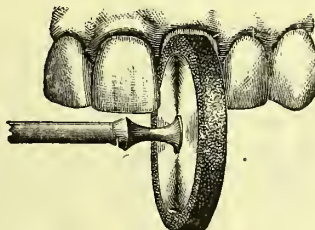
FIG. 2



No. 1



No. 2



These Shields are for making Corundum, or Carborundum Wheels safe-sided. They are thin disks of bright metal, concaved toward the side of the wheel, with the center of the convex side depressed for the head of the mandrel and the screw. They can be used on one or both sides of the wheel. So guarded the wheel can be used to grind off a root without injuring the adjacent tooth (Fig. 1). An equally important use is in grinding Logan Crowns, which is readily accomplished without risk of damaging the post (Fig. 2).

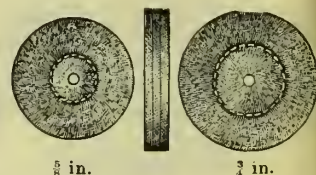
Price	each	\$0.05
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CHAMOIS POLISHING WHEELS

The manner in which these Wheels are put together makes them ideal vehicles for the application of polishing powders in finishing fillings. Three thicknesses of Chamois are sewed strongly through and through in a circle about the center, forming a rather solid hub the free edges having perfect adaptability. When applied to a filling they envelop every part of its surface and polish it perfectly.

Two sizes $\frac{5}{8}$ in., $\frac{3}{4}$ in. Put up in boxes of 25, containing sixteen of the smaller and nine of the larger size.



Price per box \$0.40; each \$0.02

LEATHER POLISHING WHEELS

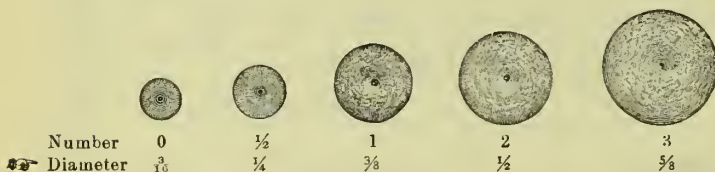
Sometimes designated as Moosehide or Hard Buff Polishers

For carrying pumice and other powders to clean teeth or polish fillings.

Five diameters, varying in thickness.

Put up in boxes of 100 assorted or of separate diameters, as desired. Used on Mandrels Nos. 301, 301 $\frac{1}{2}$.

Price.....per box \$0.40



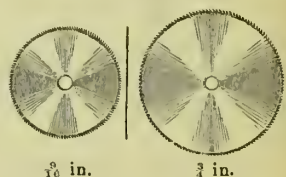
Number	0	$\frac{1}{2}$	1	2	3
Diameter	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$

SEPARATING SAWS

For making separations between teeth, no more valuable appliance has been brought forward than these fine steel circular saws for dental engines. The saw-teeth are too fine for exact illustration, but an idea of the delicacy of the cut which they will make can be gathered from an inspection of the side cuts. Made in two sizes, $\frac{9}{16}$ and $\frac{3}{4}$ inch. Can be used on Mandrels Nos. 303, 304, and 321.

PRICES

$\frac{9}{16}$ inch	.....	\$0.15
$\frac{3}{4}$ inch	.....	.20



FELT BUFFS

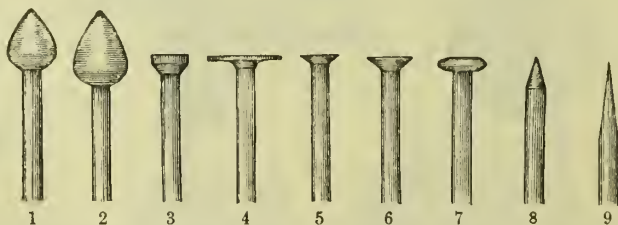
Assorted Forms

Made in Round, Bud, Pear, Barrel, and Oval shapes.

They can be mounted on Mandrels Nos. 300, 301, 301 $\frac{1}{2}$, 301 $\frac{3}{4}$.

Priceper doz. \$0.50

WOOD POLISHING POINTS



For carrying polishing powders, in finishing fillings, etc. Made of specially selected white holly. They will be found to be effective and durable.

Used with Porte-Polisher No. 307.

PRICES

Assorted, nine forms (100 in a box)	.....per box	\$0.60
Separately, Nos. 1, 2, 7 (100 in a box)	.....	.75
“ “ 3, 4, 5, 6, 8, 9 (100 in a box)	.....	.50

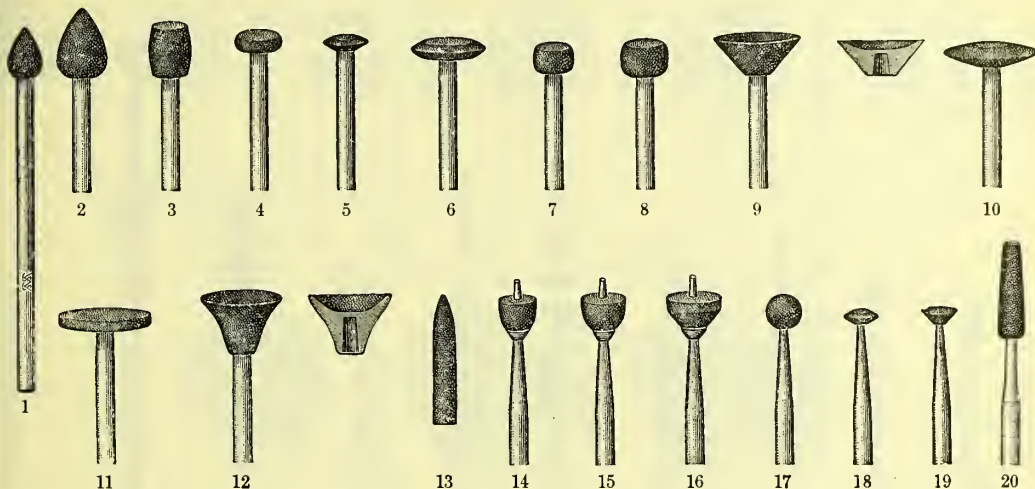
ABRASIVE POINTS

CORUNDUM

CARBORUNDUM

VULCARBO

Forms devised by Drs. Northrop, Moore, Butler, Morsman, Brophy and others



These Points are sold either mounted or unmounted except No. 13, which is always unmounted because it is to be used in a porte-polisher. When purchased mounted they will always be found to run true and will probably give better satisfaction than if the dentist mounts them himself.

Points Nos. 1 to 13 are for general work in finishing fillings and grinding teeth and roots.

Nos. 14, 15, and 16 are especially for preparing roots to receive crowns.

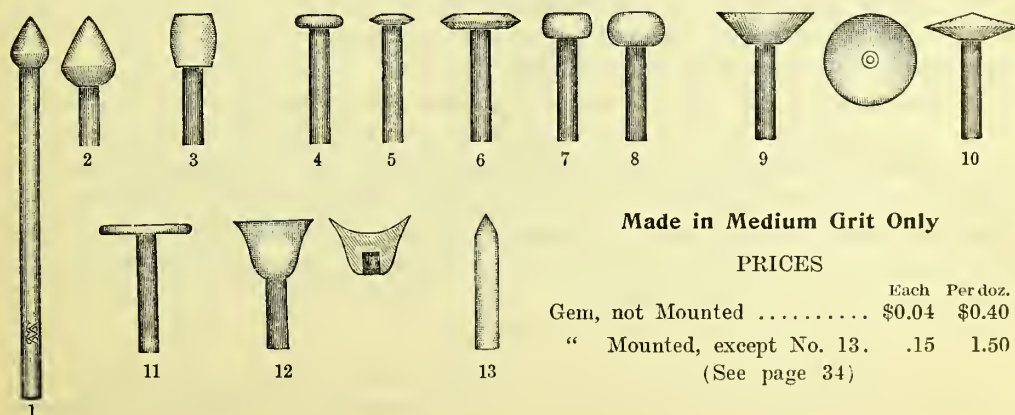
Points 17, 18, and 19 are designed for finishing margins of cavities prepared for fillings. They will be found especially useful in the preparation of cavities for porcelain inlays.

Point No. 20, made in carborundum only, is a new form by Dr. J. W. Wassall, for inlay work.

PRICES

PRICES		Not Mounted	Mounted
Corundum Nos. 1 to 12, 14 to 19, medium grit only	.....each	\$0.04	\$0.15
“ “ “ “ “ “	.....per doz.	.40	1.50
Carborundum Nos. 1 to 12, 14 to 20, fine and medium grit	.....each	.04	.15
“ “ “ “ “ “	.....per doz.	.40	1.50
Vulcarbo Nos. 1 to 12, medium grit only	.....each	.04	.15
“ “ “ “ “ “	.....per doz.	.40	1.50
No. 13 Corundum, Carborundum or Vulcarbo	.....each	.04	
“ “ “ “ “ “	.....per doz.	.40	

GEM POINTS



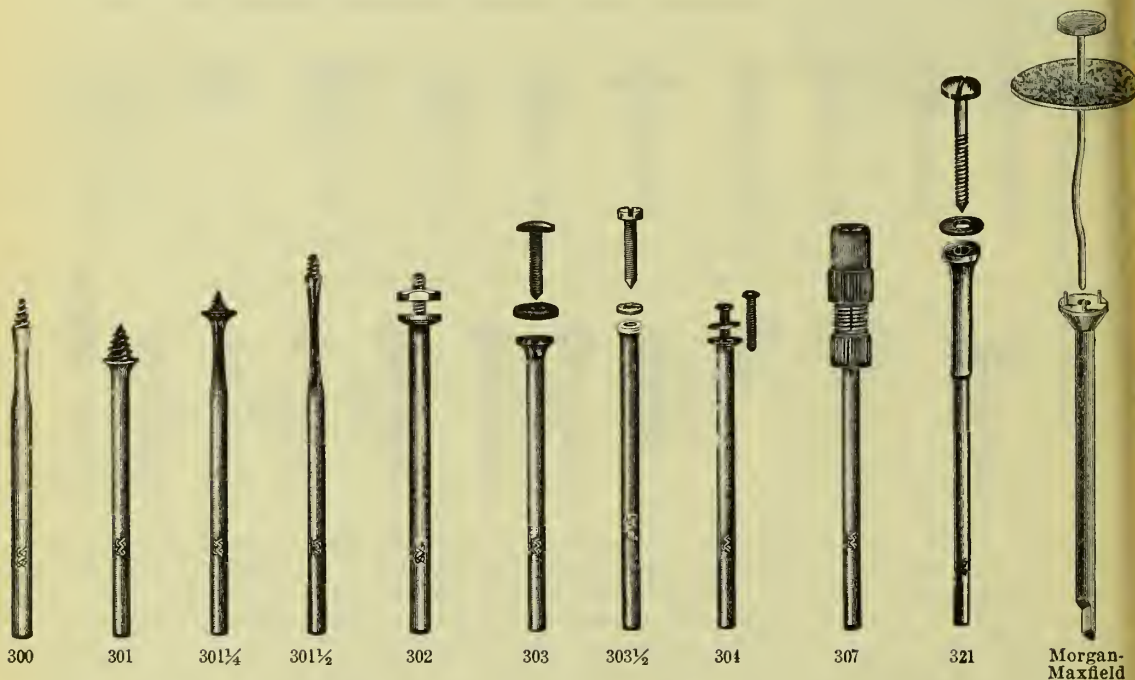
Made in Medium Grit Only

PRICES

	Each	Per doz.
Gem, not Mounted	\$0.04	\$0.40
“ Mounted, except No. 13.	.15	1.50
(See page 34)		



MANDRELS, PORTE-POLISHER, ETC.



No. 300, Screw-Mandrel, without shoulder	per doz. \$0.75; each \$0.07
" 301, " with " .....	.15
" 301 $\frac{1}{4}$, " " " .....	.15
" 301 $\frac{1}{2}$, " without " .....	.15
" 302, Parting-Nut Mandrel .....	.15
Extra Nuts, each .....	.06
No. 303, Dr. Huey's Screw-Head Mandrel, as Improved by Dr. J. L. Buchanan .....	.15
" 303, Extra long (2 $\frac{3}{8}$ in.) .....	.15
Extra Screws, each .....	.06
No. 303 $\frac{1}{2}$, Screw-Head Mandrel for Small Disks .....	.15
" 304, Mandrel. With two Screws and Washer, complete .....	.20
Extra Screws, each \$0.05. Extra Washers, each \$0.01	
No. 307, Dr. Klump's Screw-Clamp Porte-Polisher.....	.25
" 321, A modification of No. 303. The pin is lengthened three-sixteenths of an inch, the additional length, near the head, being left plain. The change, while not interfering with its usefulness in carrying paper and cloth disks, especially adapts the Mandrel for carrying polishing wheels, making it an all-around tool of wide utility ..	.20

The Morgan-Maxfield has enjoyed a wide popularity because of the simplicity of its working and the sureness of its hold. The bend in the pin holds the disk to the mandrel head, the three studs in the head keep it from turning on the stem.

Price, for Chuck Handpiece and Angle Appliance \$0.40

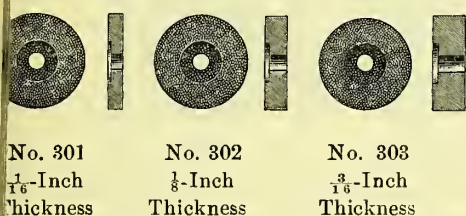
" " No. 6 Handpiece50

In ordering Engine Instruments, always specify Handpiece for which they are desired



SS CARBORUNDUM AND CORUNDUM WHEELS

HALF-INCH SIZES

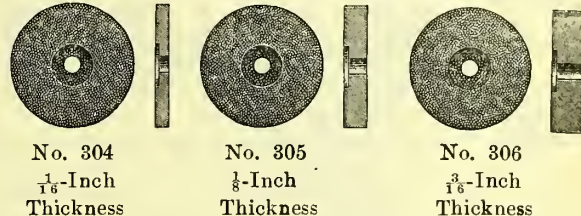


No. 301
 $\frac{1}{16}$ -Inch
Thickness

No. 302
 $\frac{1}{8}$ -Inch
Thickness

No. 303
 $\frac{3}{16}$ -Inch
Thickness

FIVE-EIGHTH-INCH SIZES



No. 304
 $\frac{1}{16}$ -Inch
Thickness

No. 305
 $\frac{1}{8}$ -Inch
Thickness

No. 306
 $\frac{3}{16}$ -Inch
Thickness

THREE-QUARTERS-INCH SIZES



No. 307
 $\frac{1}{16}$ -Inch
Thickness

No. 308
 $\frac{1}{8}$ -Inch
Thickness

No. 309
 $\frac{3}{16}$ -Inch
Thickness

ONE-INCH SIZES



No. 310
 $\frac{1}{16}$ Inch
Thickness

No. 311
 $\frac{1}{8}$ -Inch
Thickness

No. 312
 $\frac{3}{16}$ -Inch
Thickness

The trade-mark shows that we have gone into the manufacture of Wheels, Disks, and Points of Carborundum.

We believe that we make such articles as Wheels, Disks, and Points for dentists' use better than anybody else, and we put our best skill into the Carborundum goods which bear our trade-SS-mark. Our mold work is superior, the sizes are uniform, the appliances dense and strong, with the mandrel holes properly centered. Anyone can mount the Wheels and Disks on our No. 303 Screw-Head Mandrel, which they fit.

The Wheels are made in three grits, fine, medium, and coarse, the first as fine as is ever needed in dentistry, the coarse quite coarse, and the medium an intermediate between, each differing from the other enough to be marked.

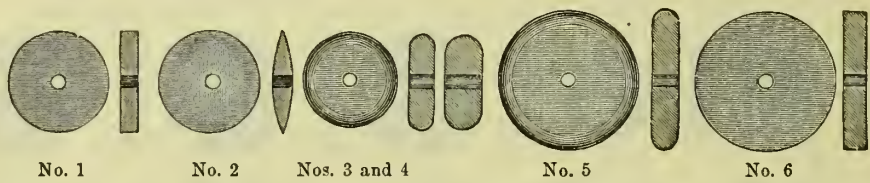
Corundum Wheels, identical with carborundum wheels in forms and sizes, are made of the best selected corundum in the medium grit only.

PRICES

Carborundum Wheels, any size or thickness	.....each	\$0.08; per doz.	\$0.90
Corundum	“ “ “ “ “	“ .05; “	.50



DIAMOND WHEELS



The value of Diamond Wheels in heavy work, as the dressing of roots, is well known. Made in six sizes and forms. Nos. 1 and 2 are charged all over; Nos. 3, 4, 5, and 6 on the edge only, with smooth sides.

Used on Mandrels Nos. 302, 303, and 321.

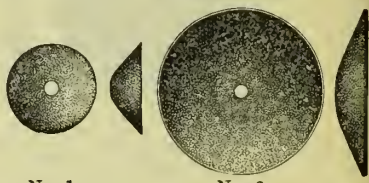
PRICES

No. 1, Square Edge, 1/2-inch diameter.....	each	\$1.50
" 2, Knife " " " "	"	1.50
" 3, Round " " " " Thin.....	"	1.50
" 4, " " " " Thick.....	"	1.80
" 5, " " 3/4 " "	"	2.00
" 6, Square " " " "	"	2.25

DIAMOND CUPS

The Diamond Cups are of the same quality, and are guaranteed to give the same satisfaction as our other Diamond Instruments.

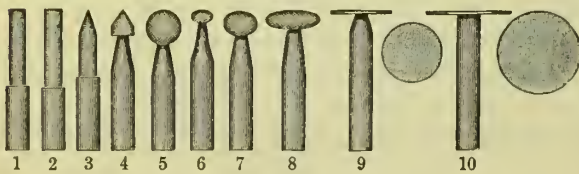
The form of these Cups exactly adapts them to the dressing of roots. Like all diamond instruments, they should be run wet, and without pressure.



PRICES

No. 1, 1/2-in. diameter	\$1.75
" 2, 3/8-in. "	2.25

DIAMOND POINTS



The forms of these Diamond Points were selected specially for their applicability to the needs of crown- and bridge-workers, to whom they will be invaluable. Made of copper, the Points charged all over with Diamond. (See page 34.) Used with Porte-Polisher No. 307.

Price, Nos. 1, 2, 3, 4, 5, 6, 7	each	\$0.60
" " 8 and 9	"	1.00
" No. 10	"	1.30



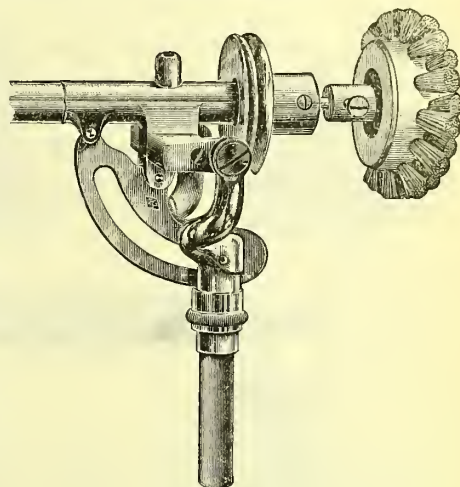
BRISTLE BRUSH-WHEEL No. 0

For Cleaning Bur-Blades, Nerve-Broach Barbs, etc., While You Work

The quickest, handiest means for cleaning off the debris which clings to burs is a Bristle Brush-Wheel No. 0 or Wire Wheel No. 2 mounted on the cable end back of the engine head. It revolves with the handpiece spindle, and by merely touching the bur-head to the wheel, without stopping the engine, the blades are cleaned in a moment.

The Bristle Brush-Wheel is ideal for the purpose. It is made with an eye to its work, of the stiffest black India bristles (which means the back bristles of the wild pig of India). These bristles have almost the rigidity of steel wire, but without the hard metallic surface to nick or dull the edges of the blades. They clean quickly and harmlessly, burs, broaches, etc.

The S. S. White Belt Engine is provided with a mandrel on the pulley wheel at the head of the engine to receive the Brush-Wheel. In the case of the Cable Engine the wood hub is mounted on a chuck which fits the cable end.



Price, No. 0, Mounted on Chuck	\$0.45
Unmounted .....	.20

STEEL WIRE BRUSH-WHEELS

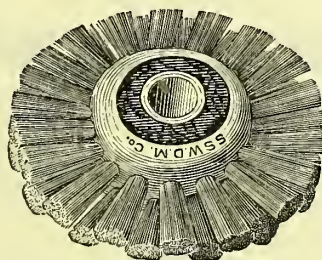
For Cleaning Burs and Files



No. 1. 1 in. diameter

To be used on Mandrels Nos. 300, 301.

Price....\$0.25



No. 2. 1½ in. diameter

Price, Mounted on Chuck.\$0.60

" Unmounted35

Chuck for Carrying Brush-Wheels Nos. 0 and 2



Price....\$0.25

REVOLVING-HEAD ENGINE BIT-HOLDER



A chuck device holds the bit firmly. Two styles, one to hold bits for No. 7 Handpiece and other straight-shank bits; the other to hold those for No. 6. In ordering, state which is wanted.

Price \$0.75

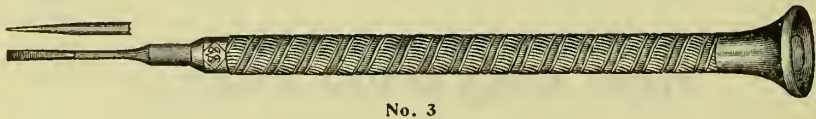


SCREW-DRIVERS

These small Screw-Drivers are almost indispensable in taking apart and putting together, Handpieces and similar appliances. They are adapted in size of points to the slots of the small screws, and not intended for work in the larger screws of the dental engine, upon which they can only be used at the risk of breakage and the ruining of the screw-head. On the other hand, larger Screw-Drivers are absolutely unfit to be applied to the small screws of Handpieces.



Two sizes of points, No. 1, $\frac{3}{64}$ inch wide, and No. 2, $\frac{5}{64}$ inch wide.
Knurled steel handle and revolving head, nickel-plated. Points of blued steel.



No. 3



No. 4

Screw-Drivers Nos. 3 and 4 correspond in sizes with Nos. 1 and 2, but they are less expensively made. They will serve well in manipulating the small screws of Engine attachments, as handpieces. Size of No. 3, $\frac{3}{64}$ inch; No. 4, $\frac{5}{64}$ inch, across the working-point.

Knurled steel handles, blued steel points, and revolving heads.

Price, Nos. 1 and 2	each	\$0.50
“ “ 3 “ 4	“	.30

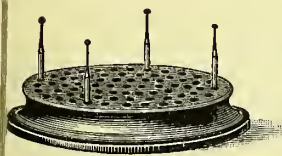
BODKIN



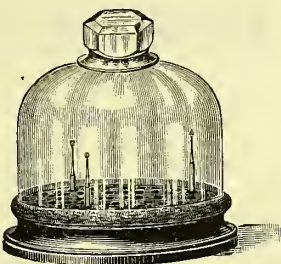
The Bodkin here shown will be found a handier, more efficient aid in adjusting and tightening the parts of Engine Handpieces than make-shifts, like broken excavators, etc.

Price, Bodkin	\$0.10
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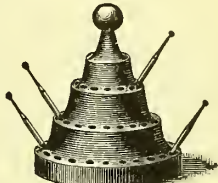
STANDS FOR ENGINE-BITS



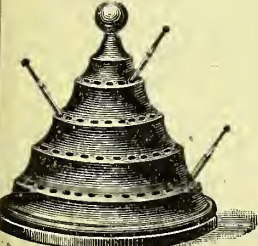
1
\$1.00



2
\$1.50

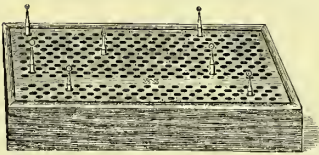


3
\$1.00

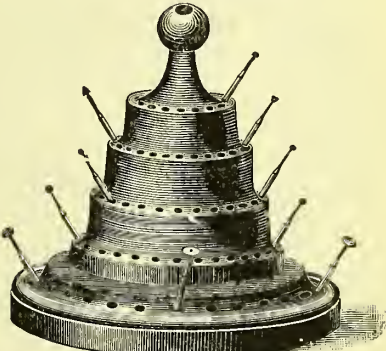


4
\$1.50

The S. S. White Bur Block



\$1.00




5
\$3.00

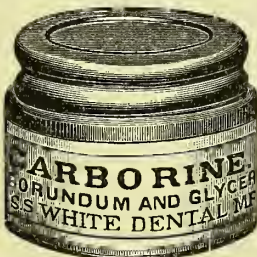
These five varieties of Stands for the convenient keeping of Engine-bits are of natural hard wood, polished, and of ebonized wood.

- No. 1 is 5 inches in diameter, 1 inch high, containing 72 holes.
 - No. 2, same, with glass cover, but containing only 60 holes.
 - No. 3 is 3½ inches in diameter, 3½ inches high, containing 48 holes.
 - No. 4 is 4½ inches in diameter, 4½ inches high, containing 78 holes.
 - No. 5 is a REVOLVING STAND, 7 inches in diameter, 7½ inches high, containing 120 holes.
- The S. S. White Bur Block has 216 holes for Handpiece instruments, 72 for Angle instruments. It is six inches square.

OUTFIT FOR CUTTING CAVITIES IN PORCELAIN TEETH



Small
Medium
Large



Actual size

With this inexpensive outfit, consisting of three instruments and a jar of Carborine, the dentist can cut cavities in porcelain teeth just as he wants them.

Carborine is a paste-like preparation of Glycerol loaded with pulverized Carborundum.

The instruments are small disks of soft steel on engine-bit shanks. They work equally well on face or edge. Using the face a round hole can be bored right into the porcelain, and then enlarged or modified in form as desired by using the edge; or by using the edge a smaller or irregular-shaped cavity can be made.

Price, Complete Outfit, as illustrated	\$0.50
“ Carborine, separately .....	.20
“ Instruments, “	each .10

Directions for use printed on the label of the box.

In ordering Engine Instruments, always specify Handpiece for which they are desired.



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MAIL ORDERS



WE GIVE SPECIAL ATTENTION TO MAIL ORDERS, both in the matter of care and exactness in sending what is called for and in the prompt despatch of goods. Our rule is to send in every case on the day the order is received and as early in the day as possible.

NO MATTER WHERE YOU ARE LOCATED, we can do business with you either from headquarters in Philadelphia or from any of our Branch Houses, and do it promptly and satisfactorily. Such service, based upon intelligent and careful attention to detail backed up by ample stocks of goods, is yours for the asking.

WE CORDIALLY INVITE CORRESPONDENCE, relative to any requirement of the dental office and laboratory.

OUR BRANCH HOUSES are so situated that there is scarcely a dentist, in the United States, who is not within twenty-four hours of one of our depots. In each of them will be found not only a full stock of goods of our manufacture but an active and efficient corps of assistants who are ever zealous to give the best and most intelligent attention to your wants.

THE MOTTO OF OUR RETAIL MAIL ORDER DEPARTMENT IS, "DO IT NOW." We realize that our customers' interests demand promptness, and we are resolved that they shall not complain of its lack.

The S. S. White Dental Mfg. Co.



